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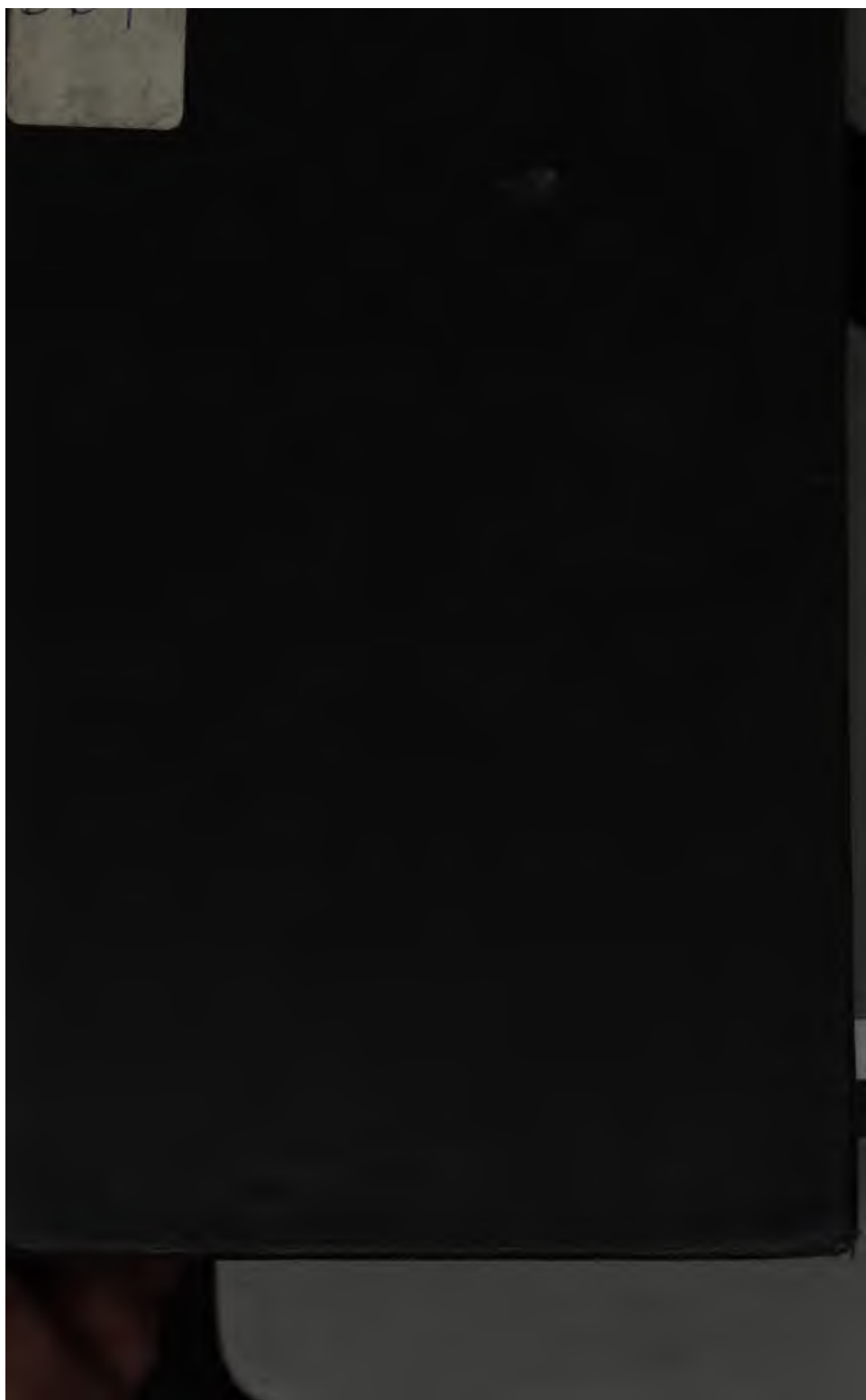
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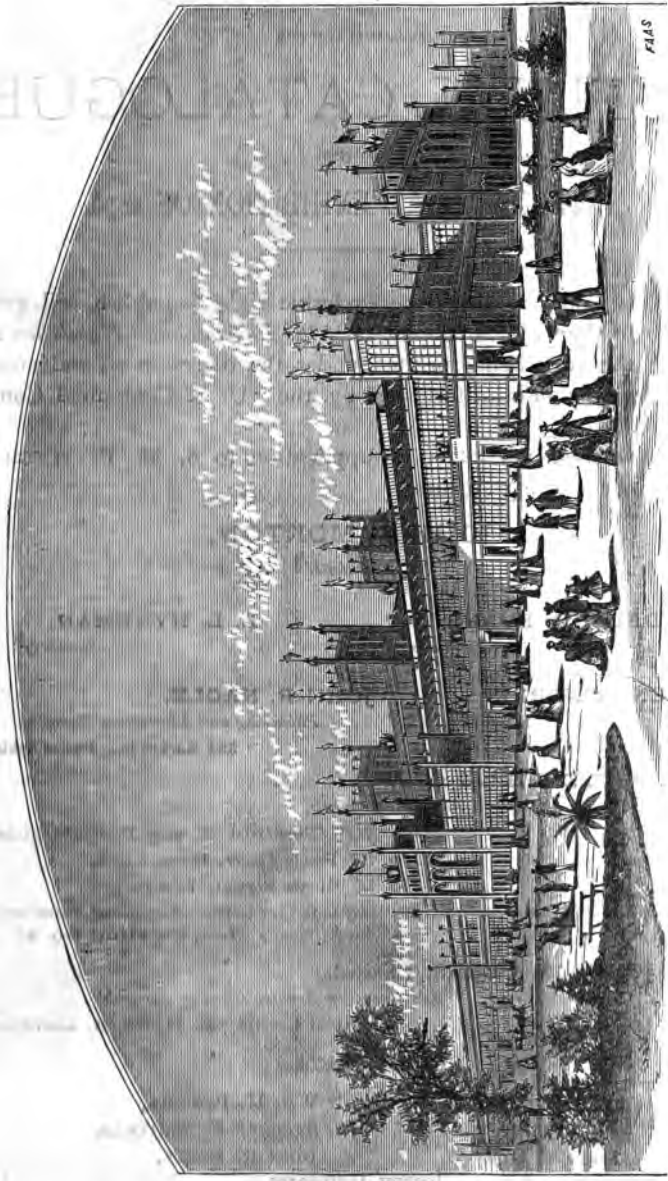
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1876

Official Catalogue.

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DEPARTMENT III.—EDUCATION AND SCIENCE.

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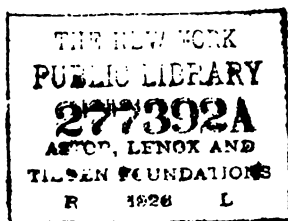
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1876.

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ROY W. B.
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• Entire Exhibit in Agricultural Hall.

[†] For Spanish Educational Exhibit see Part III, p. 132.



THE INTERNATIONAL EXHIBITION OF 1876.

THE Congress of the United States, by an act approved March 3d, 1871, provided that the centennial anniversary of the promulgation of the Declaration of American Independence in Philadelphia should be celebrated in that city "by holding an International Exhibition of Arts, Manufactures, and Products of the Soil and Mine." The preparation of the Exhibition was, by the act, confided to the United States Centennial Commission, composed of a commissioner and alternate commissioner nominated by the governor of each State and Territory, and confirmed by the President of the United States. A subsequent act, approved June 1st, 1872, created the Centennial Board of Finance, charged with the financial conduct of the Exhibition.

A proclamation by the President of the United States, dated July 3d, 1873, announced the International Exhibition, and commended it to all nations. An act of Congress, approved June 5th, 1874, requested the President, in the name of the United States, to invite the governments of foreign nations to participate in the Exhibition. The invitation thus extended was accepted by the governments of

Argentine Republic,	Queensland,	Seychelles Archipelago,	Norway,
Austria-Hungary,	New Zealand,	Tasmania,	Orange Free State,
Belgium,	New South Wales,	Trinidad,	Peru,
Brazil,	Victoria,	India,	Philippine Islands,
Canada,	South Australia,	Bermuda, and	Portugal,
Chili,	India,	Jamalca,	Russia,
China,	Cape of Good Hope,	Hawaii,	Spain,
Denmark,	Bahamas,	Italy,	Sweden,
Egypt,	British Guiana,	Japan,	Switzerland,
France, with Algeria,	Ceylon,	Liberia,	Tunis,
Germany,	Straits Settlements,	Luxembourg,	Turkey,
Great Britain, with colonies, viz.	Gold Coast,	Mexico,	Venezuela.
	Mauritius,	Netherlands,	

The Centennial Commission provided for the classification of the objects to be exhibited in seven departments, which were referred to five exhibition buildings in this manner:

DEPARTMENT.	BUILDINGS.	ACRES COVERED.
I. Mining and Metallurgy,	Main Building,	21.47
II. Manufactures,		
III. Education and Science,		
IV. Art,	Art Gallery	1.5
V. Machinery,	Machinery Building,	14.
VI. Agriculture,	Agricultural Building,	10.
VII. Horticulture,	Horticultural Building,	1.5
Total,		48.47

The applications for exhibiting space, however, both at home and from abroad, so exceeded the calculations that had been made as to necessitate the erection of annexes supplementing the capacity of each of these buildings. Enumerations of these additional structures will be found on subsequent pages. The classes of objects grouped in the several departments are indicated in the following synopsis of the *classification of the Exhibition*.

SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109 110—119 120—129	Minerals, Ores, Stone, Mining Products. Metallurgical Products. Mining Engineering.
	II. MANUFACTURES.	200—205 206—216 217—227 228—234 235—241 242—249 250—257 258—264 265—271 272—279 280—284 285—291 292—296	Chemical Manufactures. Ceramics, Pottery, Porcelain, Glass, etc. Furniture, etc. Yarns and Woven Goods of Vegetable or Mineral Materials. Woven and Felted Goods of Wool, etc. Silk and Silk Fabrics. Clothing, Jewelry, etc. Paper, Blank Books, Stationery. Weapons, etc. Medicine, Surgery, Prothesis. Hardware, Edge Tools, Cutlery, and Metallic Products. Fabrics of Vegetable, Animal, or Mineral Materials. Carriages, Vehicles, and Accessories.
	III. EDUCATION AND SCIENCE	300—309 310—319 320—329 330—339 340—349	Educational Systems, Methods, and Libraries. Institutions and Organizations. Scientific and Philosophical Instruments and Methods. Engineering, Architecture, Maps, etc. Physical, Social, and Moral Condition of Man.
ART GALLERY.	IV. ART.	400—409 410—419 420—429 430—439 440—449 450—459	Sculpture. Painting. Engraving and Lithography. Photography. Industrial and Architectural Designs, etc. Ceramic Decorations, Mosaics, etc.
MACHINERY BUILDING.	V. MACHINERY.	500—509 510—519 520—529 530—539 540—549 550—559 560—569 570—579 580—589 590—599	Machines, Tools, etc., of Mining, Chemistry, etc. Machines and Tools for working Metal, Wood, and Stone. Machines and Implements of Spinning, Weaving, etc. Machines, etc., used in Sewing, Making Clothing, etc. Machines for Printing, Making Books, Paper Working, etc. Motors, Power Generators, etc. Hydraulic and Pneumatic Apparatus. Railway Plant, Rolling Stock, etc. Machinery used in Preparing Agricultural Products. Aerial, Pneumatic, and Water Transportation. Machinery, and Apparatus, especially adapted to the requirements of the Exhibition.
AGRICULTURAL BUILDING.	VI. AGRICULTURE	600—609 610—619 620—629 630—639 640—649 650—662 665—669 670—679 680—689 690—699	Arboriculture and Forest Products. Pomology. Agricultural Products. Land Animals. Marine Animals, Fish Culture, and Apparatus. Animal and Vegetable Products. Textile Substances of Vegetable or Animal origin. Machines, Implements, and Processes of Manufacture. Agricultural Engineering and Administration. Tillage and General Management.
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709 710—719 720—729 730—739	Ornamental Trees, Shrubs, and Flowers. Hot Houses, Conservatories, Grapery. Garden Tools, Accessories of Gardening. Garden Designing, Construction, and Management.

The full text of the classification of the several Departments will be found at the commencement of the enumeration of objects shown in each. The distribution of the departments and buildings through the four volumes of the catalogue, is as follows:

VOLUME I.—DEPARTMENT I. *Mining and Metallurgy*; II. *Manufactures*; III. *Education and Science*. Main Building and Annexes.

VOLUME II.—DEPARTMENT IV. *Art*. Memorial Hall and Annexes.

VOLUME III.—DEPARTMENT V. *Machinery*. Machinery Building and Annexes. Buildings of United States government and foreign governments, of State governments, and of individual exhibitors.

VOLUME IV.—DEPARTMENT VI. *Agriculture*; VII. *Horticulture*. Agricultural and Horticultural Buildings and Annexes, Alphabetical Index of Exhibitors, Commissioners, Judges, etc.

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Henry L. Janeway, New Brunswick.
John T. Bird, Flemington.

Thomas H. Dale, Paterson.
Sanford B. Hunt, Newark.
Nathan W. Condict, Jersey City.
Patrick T. Quinn, *Secretary*, Newark.

NEW MEXICO.

Stephen B. Elkins, Washington, D. C.
W. F. M. Army, *Secretary*, Fort Defiance.
Richard Hudson, Silver City.

W. G. Ritch, *President*, Santa Fé.
Thomas S. Tucker, *Treasurer*, Santa Fé.
José D. Sena, Santa Fé.

NEW YORK.

Alonzo B. Cornell, Ithaca, Tompkins Co.
John Murdock, Elmira, Chemung Co.
Jackson S. Schultz, No. 63 Cliff St., New York City.
Frank Leslie, No. 537 Pearl St., New York City.

Felix Campbell, No. 1315 Pacific St., Brooklyn.
H. Havermyer, New York.
Frederick A. Conkling.

OHIO.

R. P. Ranny, *President*, Cleveland.
Rutherford B. Hayes, Fremont.
E. F. Noyes, Cincinnati.
G. W. McCook, Steubenville.

Barnabas Burns, Mansfield.
F. F. Green, *Secretary and Superintendent*, Cleveland.

OREGON.

M. Wilkins, Willamette Forks.
C. P. Burkhardt, Albany.
E. R. Geary, Albany.
W. J. Halsey, Portland.

M. P. Deady, Portland.
Thomas Condon, Forest Grove.
S. G. Reed, Portland.

PENNSYLVANIA.

Morton McMichael, Philadelphia.
 Andrew G. Curtin, Bellefonte.
 John H. Shoenburger, Pittsburg.

George Scott, Catawissa.
 Foster W. Mitchell, Franklin.

RHODE ISLAND.

John Gorham, Providence.
 Hon. Henry Lippitt, Providence.
 James Y. Smith, Providence.

William Goddard, Providence.
 Rowland Hazard, Providence.
 John R. Bartlett, Providence.

TENNESSEE.

J. M. Safford, Davidson Co.
 C. C. Giers, Davidson Co.
 J. T. Wilder, Hamilton Co.

Joseph Barbieri, Shelby.
 George E. Purvis, Nashville.
 S. B. Lowe, Chattanooga.

TEXAS.

J. E. Preston, Marlin.
 E. L. Gregg, Rush.

S. J. Adams, Dallas.

UTAH.

Wm. Jennings, *President*, Salt Lake City.
 Henry C. Goodspeed, *Secretary*, Salt
 Lake City.

John T. Caine, Salt Lake City.
 Joseph R. Walker, Salt Lake City.
 George S. Prescott, Salt Lake City.

VERMONT.

Joseph S. Patterson.
 P. P. Pitkin.

VIRGINIA.

John D. Imboden, *President*, Richmond.
 Marshall Parks, Norfolk.
 Samuel J. Moffitt, Harrisonburg.

G. J. Wharton, Pulaski Co.
 Edward M. Pace, Danville.

WASHINGTON TERRITORY.

James S. Lawson, Olympia.
 Charles E. P. Wood, Port Discovery.
 Edward S. Kearney, Walla Walla.

Henri M. Chase, Walla Walla.
 Phillip Ritz, Walla Walla.

WEST VIRGINIA.

O. C. Dewey, Wheeling.
 G. W. Franzheim, Wheeling.
 C. N. Beall, Bethany.

Thomas Maslin, Moorsfield.
 I. P. Hale, Charleston.

WISCONSIN.

J. B. Parkinson, *President*, Madison.
 Eli Stilson, Oshkosh.
 Adolph Meinecke, Milwaukee.
 J. I. Case, Racine.

T. C. Pound, Chippewa Falls.
 F. Kuehn, *Treasurer*, Manitowoc.
 W. W. Field, *Secretary*, Madison.

WYOMING.

J. R. Whitehead, Cheyenne.
 Stephen W. Downey, Laramie City.
 James France, Rawlins.

John Fosher, South Pass City.
 J. H. Pyachou, Laramie City.
 J. A. Van Carter, Fort Bridger.

SYSTEM OF AWARDS.

THE Centennial Commission have substituted for the international juries employed at previous International Exhibitions, a system of awards which provided :

That awards shall be based upon written reports attested by the signatures of the authors.

That the judges should be selected for their known qualifications and character and should be experts in the departments to which they are respectively assigned; the foreign members of this body being appointed by the Commission of each country and in conformity with the distribution and allotment to each; the judges from the United States by the Centennial Commission.

That judges should be reimbursed for their personal expenses.

That reports and awards should be based upon inherent and comparative merit; the elements of merit being held to include considerations relating to originality, invention, **discovery**, utility, quality, skill, workmanship, fitness for the purposes intended, adaptation to public wants, economy, and cost.

That each report should be delivered to the Centennial Commission as soon as completed, for final award and publication.

That awards should be finally decreed by the United States Centennial Commission, in compliance with the Act of Congress, and should consist of a diploma with a uniform **Bronze Medal**, and a special report of the judges on the subject of, the Award.

That each exhibitor shall have the right to produce and publish the report awarded to him, but the United States Centennial Commission reserves the right to publish and dispose of all reports in the manner it thinks best for public information, and also to embody and distribute the reports as records of the Exhibition.

JUDGES OF AWARDS.

GROUP I.

Minerals, Mining, and Metallurgy, including the Machinery.—(Classes 100 to 108 of the classification. See page 27.)

Metals, Metallurgical Products and Processes.—(Classes 110 to 115.)

Machines, Tools, and Apparatus of Mining and Metallurgy.—(Classes 500 to 507, and 512.)

Mine Engineering—Models, Maps, and Sections.—(Classes 120, 121.)

AMERICAN.

Alexander L. Holley, 56 Broadway, N. Y.
Prof. T. Sterry Hunt, LL.D., F.R.S.,
St. James Hotel, Boston, Mass.
Prof. J. M. Safford, Nashville, Tennessee.
S. B. Axtell, Santa Fé, New Mexico.
John Fritz, Bethlehem, Pa.
Austin Savage, Boise City, Idaho.
W. S. Keyes, M. E., Eureka, Nevada.
Prof. Frederick Prime, jr., Easton, Pa.
Matthew Addy, Cincinnati, Ohio.
Prof. G. C. Broadhead, Pleasant Hill,
Missouri.

FOREIGN.

Mr. Isaac Lowthian Bell, M.P., F.R.S.,
Great Britain.
Mr. Ernst F. Adthans, Breslau, Germany.
Mr. Louis Simonin, Paris, France.
Mr. F. Valton, France.
Mr. R. Akerman, Stockholm, Sweden.
Mr. Achille Jottrand, Belgium.
M. L. Nicholasky, Russia.
Mr. Nicholas Jossa, Russia.
Dr. Th. Kjerulf, Christiania, Norway.
Don Daniel de Cortazar, Spain.

GROUP II.

Pottery, Glass, Artificial Stone, etc.—(Classes 206 to 216, and 219, 103, 517, 518.)

AMERICAN.

Gen. Q. A. Gillmore, U. S. A., care D.
Van Nostrand, New York.
Arthur Beckwith, 134 Fifth Avenue, New
York.
Prof. E. T. Cox, Indianapolis, Indiana.
Gen. Hector Tyndale, Philadelphia, Pa.
Henry Wurtz, Hoboken, N. J.

FOREIGN.

R. H. Soden Smith, M.A., Great Bri-
tain.
Dr. G. Seelhorst, Nuremberg, Germany.
M. Ch. de Bussy, Paris, France.
Adolf E. Nordenskiöld, Sweden.
Mr. K. Notomi, Japan.

GROUP III.

Chemistry and Pharmacy, including the Apparatus.—(Classes 200 to 203, and 274, 508, 509, and 659.)

AMERICAN.

Prof. C. A. Joy, Columbia College, New
York.
Prof. F. A. Genth, University of Pennsyl-
vania, Philadelphia, Pa.
Prof. J. Lawrence Smith, Louisville, Ky.
Prof. C. F. Chandler, Columbia College,
New York.
Prof. J. W. Mallet, University of Vir-
ginia, Charlottesville, Virginia.

FOREIGN.

Dr. William Odling, F.R.S., Great Bri-
tain.
Dr. Rudolf von Wagner, Würzburg,
Germany.
M. J. F. Kuhlmann Lille, France.
Mr. Prosper De Wilde, Belgium.
Mr. Emanuel Paterno, Italy.

GROUP IV.

Animal and Vegetable Products, and the Machinery for their Preparation.—(Class 650 to 661.)

AMERICAN.

Prof. W. C. Kerr, Raleigh, N. C.
L. B. Arnold, Rochester, N. Y.
Col. J. F. Tobias, 1705 Locust Street,
Philadelphia, Pa.
Col. John Bradford, Tallahassee, Fla.
Guido Marx, Toledo, Ohio.
Ryland T. Brown, Indianapolis, Ind.
W. S. Green, Milford, Wis.

FOREIGN.

Mr. Edouard Martell, France.
Don Edward Loring, Malaga, Spain.
Dr. Nicolau J. Moreira, Brazil.
M. Jayme Batalha Reis, Portugal.
Mr. Ekedo Kenzo, Japan.
E. Oldendorff, Argentine Confederation.
Dr. E. H. Von Baumhauer, Netherlands.
H. G. Joly, M. P., Canada.
Julius Wegeler, Coblenz, Germany.
G. F. Secchi de Casali, Italy.
Prof. Thomas R. Segelche, Denmark.
Rustem Effendi, Turkey.

GROUP V.

Fish and Fish Products—Apparatus of Fishing, etc.—(Classes 640 to 648.)

AMERICAN.

Prof. S. F. Baird, Smithsonian Institution, Washington.
T. B. Ferguson, Baltimore, Md.

FOREIGN.

Joachim Andersen, Norway.

GROUP VI.

Timber, Worked Lumber, Parts of Buildings, Forestry.—(Classes 600 to 607.)

AMERICAN.

Prof. Wm. H. Brewer, New Haven, Conn.
J. M. Bennett, Weston, Lewis Co., W. Va.
Prof. J. S. Newberry, Cleveland, Ohio, or
Columbia College, N. Y.

FOREIGN.

John R. West, Chili.
M. Rodrigues de Vasconcellos, Portugal.
Hon. W. Skead, Canada.
Dr. José de Saldanha, Brazil.

GROUP VII.

Furniture, Upholstery, Wooden Ware, Baskets, etc.—(Classes 217, 220, 221, 225, 228, 289, 290.)

AMERICAN.

Addison Boyden, Boston, Mass.
Chauncey Wiltse, Omaha, Neb.
Robert Mitchell, Cincinnati, O.

FOREIGN.

Le Marquis de Rochambeau, France.
Mr. Theo. Snyers, Belgium.
Francis Thonet, Austria.

GROUP VIII.

Cotton, Linen, and other Fabrics, including the Materials and the Machinery.—(Classes 228, 229 to 234, 521, 523, 524, 665, 666.)

AMERICAN.

Edward Atkinson, Boston, Mass.
Hugh Waddell, jr., Savannah, Ga.
Col. Ed. Richardson, Jackson, Miss.
A. D. Lockwood, Providence, R. I.
Chas. H. Wolff, Cincinnati, Ohio.
Samuel Webber, C. E., Manchester, N. H.
George O. Baker, Selma, Ala.

FOREIGN.

Mr. Isaac Watts, Great Britain.
Mr. W. W. Hulse, C. E., Great Britain.
Consul Gustav Gebhard, Germany.
Albert Daninos, Turkey.
Don Alvaro de la Gandara, Spain.
Major A. Goldy, Switzerland.
Prof. Gustave Herrmann, Germany.
Prof. Giuseppe Dassi, Italy.

GROUP IX.

Wool and Silk Fabrics, including the Materials and the Machinery. Woven and Felted Goods of Wool, and Mixtures of Wool.—(Classes 235 to 241, 522, and 667.)
Silk and Silk Fabrics, and Mixtures in which Silk is the Predominating Material.—(Classes 242 to 249 and 520.)

AMERICAN.

John L. Hayes, Cambridge, Mass.
Hon. Elliot C. Cowdin, New York.
Chas. Le Boutillier, Philadelphia, Pa.
Chas. J. Ellis, 714 Market St., Philadelphia, Pa.
J. D. Lang, Vassalboro', Me.

FOREIGN.

Mr. Henry Mitchell, Great Britain.
Dr. Max Weigert, Germany.
Mr. Chatel, France.
Carl Arberg, Sweden.
Mr. Hayami Kenzo, Japan.
Mr. John G. Neeser, Switzerland.
August Behmer, Egypt.
Theodore Bochner, Austria.

GROUP I.

Clothing, Furs, India Rubber Goods, Ornaments, and Fancy Articles. (Exclusive of Leather Boots and Shoes.)—(Classes 250 to 257 and 288.)

Caoutchouc and Gutta Percha Industry.—(Class 285.)

AMERICAN.

Prof. W. H. Chandler, Ph.D., F.C.S.,
Lehigh University, Bethlehem, Pa.
Wm. O. Linthicum, New York City.
Benj. F. Britton, New York City.
Dr. George Hewston, San Francisco, Cal.
Prof. E. N. Horsford, Cambridge, Mass.

FOREIGN.

Mr. Dietz-Monnin, France.
Mr. Modest Kittary, Russia.
Mr. Edward Kanitz, Austria.
Mr. M. P. Empey, Canada.

GROUP XI.

Jewelry, Watches, Silverware, Bronzes, etc.—(Class 253.)

AMERICAN.

Martin P. Kennard, Boston, Mass.
Peter Gottesleben, Denver, Col.

FOREIGN.

G. H. Heap, Tunis.
M. Roulleaux du Gage, France.

GROUP XII.

Leather and Manufactures of Leather, including Boots, Shoes, Trunks, etc.—(Classes 532 and 533.)

AMERICAN.

Gov. F. H. Pierpont, Fairmount, Marion Co.,
W. Va.
John Cummings, Boston, Mass.
Thomas Miles, Philadelphia, Pa.
J. P. Postles, Wilmington, Del.

FOREIGN.**GROUP XIII.**

Paper Industry, Stationery, Printing, and Book Making.—(Classes 258 to 264.)

Machines and Apparatus for Type Setting, Printing, Stamping, Embossing, and for making Books and Paper Working.—(Classes 525 and 540 to 547.)

AMERICAN.

James M. Willcox, Ph.D., Glen Mills, Pa.,
1722 Spruce St., Phila.
C. O. Chapin, Springfield, Mass.
Wm. Faxon, Hartford, Conn.
Edward Conly, Cincinnati, Ohio.
H. T. Brian, Government Printing Office,
Washington.

FOREIGN.

Sir Sidney H. Waterlow, Bart., M.P., Great
Britain.
G. W. Seitz, Germany.

GROUP XIV.

Apparatus of Heating, Lighting, Ventilation, Water Supply, and Drainage.—(Classes 222 to 224.)

AMERICAN.

C. C. Cox, M.D., LL.D., Washington, D. C.
Azet Ames, Jr., M.D., Wakefield, Mass.

FOREIGN.**GROUP XV.**

Builders' Hardware, Edge Tools, Cutlery, etc.—(Classes 280 to 284.)

AMERICAN.

Charles Staples, Portland, Me.
Daniel Steinmetz, Philadelphia.
George L. Reed, Clearfield, Pa.
Gen John D. Imboden, Richmond, Va.

FOREIGN.

Hon. J. Bain, Lord Provost of Glasgow, Great
Britain.
Mr. D. McHardy, Great Britain.
Mr. Diefenbach, Germany.

GROUP XVI.

Military and Sporting Arms, Weapons, Apparatus of Hunting, Explosives, etc.—(Classes 204, 205, and 265 to 270.)

AMERICAN.

Col. S. C. Lyford, U.S.A. (Chairman Govern-
ment Board, etc).
Gen. H. L. Abbot, U.S.A., Willets' Point,
N. Y.
George A. Hamilton, St. Paul, Minn.

FOREIGN.

Major Wm. H. Noble, R.A., Great Britain.
Capt. Comm't of Artillerie Lesne, Belgium.
Capt. L. F. Saldanha da Gama, Brazil.

GROUP XVII.**Carriages, Vehicles, and Accessories.**—(Classes 292 to 296.)**AMERICAN.**

Thos. Goddard, Boston, Mass., 134 State St.
B. F. Morse, Augusta, Me.

FOREIGN.

Mr. Guiet, France.
Mr. Duffus, Canada.

GROUP XVIII.**Railway Plant, Rolling Stock, and Apparatus, Road Engines.**—(Classes 570 to 577.)**AMERICAN.**

Robert E. Ricker, Elizabeth, N. J.
Gen. T. A. Morris, Indianapolis, Ind.
Felician Slataper, Pittsburg, Pa.

FOREIGN.

Capt. Douglas Galton, R.E., C.B., F.R.S.,
Great Britain.
Mr. Ernest Pontzen, Austria.
Mr. E. E. A. Schaar, Belgium.

GROUP XIX.**Vessels and Articles of Transportation**—(not included in other groups).—(Classes 287 to 544, and 590 to 597.)**AMERICAN.**

Isaac Newton, New York.
J. W. Griffith, Portsmouth, N. H.
H. C. Goodspeed, Salt Lake City, Utah.

FOREIGN.

Col. F. H. Rich, R.E., Great Britain.

GROUP XX.**Motors, Hydraulic and Pneumatic Apparatus, etc.**—(Classes 550 to 555, and 560 to 568.)**AMERICAN.**

C. T. Porter, Newark, N. J.
Joseph Belknap, New York.
James Moore, Philadelphia.
Horatio Allen, South Orange—"Homewood,"
N. J.
Chas. E. Emery, 7 Warren Street, New York.

FOREIGN.

Mr. W. H. Barlow, C.E., Great Britain.
Prof. Reuleaux, Germany.
Nicholas Petroff, Russia.
Emil Brugsch, Egypt.

GROUP XXI.**Machine Tools—Wood, Metal, and Stone.**—(Classes 510, 511, and 514 to 516.)**AMERICAN.**

Irving M. Scott, Union Iron Works, San Francisco, Cal.
George H. Blelock, Springfield, Mass.
W. F. Durfee, Wisconsin (at 56 Broadway,
New York).
Prof. John A. Anderson, President Kansas
State Agricultural College, Manhattan, Kan.

FOREIGN.

Mr. John Anderson, LL.D., C.E., Great
Britain.
M. Le Commandant F. Perier, France.
Mr. C. A. Angstrom, Sweden.
Mr. Auguste Gobert (fils), Belgium.
Mr. Felix Reifer, Austria.

GROUP XXII.**Machines, Apparatus, and Implements used in Sewing and Making Clothing, Lace, Ornamental Objects, Pins, etc.**—(Classes 530, 531, and 534 to 537.)**AMERICAN.**

George W. Gregory, Boston, Mass.
Edward H. Knight, Patent Office, Wash-
ington, D. C.
L. D. F. Poore, Springfield, Dakota.

FOREIGN.

Mr. Fred. A. Paget, C.E., Great Britain.

GROUP XXIII.**Agricultural Machines, Implements of Agriculture, Horticulture, and Gardening.**—(Classes 671 to 675, and 680 to 683.)**Tillage and General Management.**—(Classes 690 to 692, and 715, 716.)**Garden Tools, Accessories of Gardening.**—(Classes 720 to 722.)**Garden Designing, Construction, and Management.**—(Classes 710, and 731 to 733.)**AMERICAN.**

Hon. John P. Reynolds, Chicago, Ill.
James S. Grinnell, Washington, D. C.
Geo. E. Waring, jr., Newport, R. I.
James Bruce, Corvallas, Oregon.

FOREIGN.

Mr. John Coleman, Great Britain.
Dr. Jose de Saldanha, Brazil.
Don Fermin Rosillo, Spain.

GROUP XXIV.**Instruments and Apparatus of Hygiene, Medicine, Surgery, Prosthesis, etc.**—(Classes 272, 273, and 275 to 278.)**AMERICAN.**

C. B. White, M.D., New Orleans, La.
J. H. Thompson, A.M., M.D., Washington,
D. C.

FOREIGN.

Dr. William Roth, Germany.
Dr. Ernst Fleischel, Austria.

GROUP XXV.

Instruments of Precision, Research, Experiment, and Illustration, including Telegraphy and Music.—(Classes 320 to 327.)

AMERICAN.

Prof. Joseph Henry, LL.D., Secretary of Smithsonian Institution, Washington, D. C.
 Prof. F. A. P. Barnard, S.T.D., LL.D., Columbia College, N. Y.
 Prof. J. E. Hilgard, Washington, D. C.
 Prof. J. C. Watson, Ann Arbor, Mich.
 General Henry K. Oliver, Salem, Mass.
 Geo. F. Bristow, New York.

FOREIGN.

Sir William Thomson, LL.D., D.C.L., F.R.S., Great Britain.
 Jul. Schiedmayer, Germany.
 Mr. E. Levasseur, France.
 P. F. Kupka, Austria.
 Edw. Favre Perret, Switzerland.

GROUP XXVI.

Architecture and Engineering. (For Agricultural Engineering, see Class 680.)
 (For Mine Engineering, see Group I.) **Architecture.**—(Classes 341, 342.)
Engineering.—(Classes 330 to 333, and 335.)

AMERICAN.

James B. Eads, C.E., South Pass Jetty Works, 122 Common Street, New Orleans, La.
 General Wm. B. Franklin, Hartford, Conn.
 Richard M. Hunt, 49 West Thirty-fifth Street, New York.

FOREIGN.

Sir John Hawkshaw, C.E., F.R.S., Great Britain.
 Mr. Lavoigne, France.
 J. M. da Silva Continho, Brazil.
 J. G. W. Fynje, Netherlands.
 Lourenço Maheiro, M.E., Portugal.

GROUP XXVII.

Plastic and Graphic Art Sculpture.—(Classes 400 to 405.)
Painting.—(Classes 420 to 423.)
Engraving and Lithography.—(Classes 420 to 424.)
Photography.—(Classes 430 to 432.)
Industrial and Architectural Designs, Models, and Decorations.—(Classes 440 to 443.)
 (Classes 450 to 454.)
Decoration with Ceramic and Vitreous Materials; Mosaic and Inlaid Work.

AMERICAN.

Frank Hill Smith, Boston, Mass.
 James L. Claghorn, Philadelphia, Pa.
 Prof. S. F. Weir, New Haven, Conn.
 Donald G. Mitchell, New Haven, Conn.
 Geo. Ward Nichols, Cincinnati, Ohio.
 Prof. Henry Draper, Medical College, New York City.

FOREIGN.

Mr. Charles West Cope, R.A., Great Britain.
 Mr. Peter Graham, Great Britain.
 Carl Schlesinger, Germany.
 Dr. H. Vogel, Germany.
 Mr. Emile T. Saintain, France.
 Fritz L. Dardel, Sweden.
 P. N. Arbo, Norway.
 Count of Donadis, Spain.
 Mr. Tantardini, Italy.
 Guglielmo de Sanctis, Italy.
 Mr. Carl Costenoble, Austria.
 Prof. V. Dahlerup, Denmark.
 J. E. van Heemskerck van Beest, Netherlands.

GROUP XXVIII.

Educational Systems, Methods, and Libraries.—(Classes 300 to 306.)
Institutions and Organizations.—(Classes 310 to 313.)

AMERICAN.

Hon. Andrew D. White, LL.D., President of Cornell University, Ithaca, N. Y.
 D. C. Gilman, LL.D., President of St. John's Hopkins University, Baltimore, Md.
 Hon. J. M. Gregory, LL.D., Pres. Illinois Industrial Union, Champaign, Ill.
 Hon. J. W. Hoyt, M.D., LL.D., Madison, Wis.

FOREIGN.

Sir Charles Reed, Great Britain.
 Mr. René Fouriet, France.
 Col. John Marin, Spain.
 Prof. Dr. Otto Martin Torell, Sweden.

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—The buildings bear the numbers prefixed to them in this table, being the numbers adopted by the Centennial Guide Book Co. (Limited).]

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9.	Office U. S. Centennial Commission,	III. 117
10.	Centennial National Bank,	III. 117
11.	Weimer Machine Works,	III. 118
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15.	Gillender & Sons, Glassware Manufactory,	III. 118
16.	Camp of West Point Cadets,	III. 118
17.	Iron Pipe,	III. 118
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20.	Boiler House,	III. 119
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BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—Descriptions of the Buildings will be found at the indicated part and page of the Official Catalogue.]

Buildings North of the Avenue of the Republic, and West of Belmont Av.

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93. Rowell's Newspaper Exhibition Building,	III.	142
94. California State Building,	III.	142
95. Centennial Fire Patrol, No. 1,	III.	142
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98. Iowa State Building,	III.	143
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114. Office United States Centennial Commission,	III.	145
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120. French Government Building,	III.	145
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122. Penn'a Educational Building,	III.	146
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132. Singer's Sewing Machines,	III.	148
133. Centennial Medical Departm't,	III.	148
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137. Kindergarten,	III.	149
138. Centennial Police Station,	III.	149
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No. I. THE MAIN EXHIBITION BUILDING.

Size, 1880 by 464 feet.

Engineers and Architects, HENRY PETTIT & JOS. M. WILSON.

Contractor, R. J. DOBBINS.

Wrought and Cast Iron Manufactured by WM. SELLERS & CO., *Moor Iron Works.*

Wrought Iron Furnished by A. & P. ROBERTS, *Pencoyd Rolling Mills.*

Cast Iron Furnished by MORRIS, TASKER, & CO., *Pascal Iron Works.*

Erector of Iron Work, WATSON MANUFACTURING CO.

THE Main Exhibition Building, containing Departments I, II, III of the Exhibition, is in the form of a parallelogram, extending east and west 1880 feet in length, and north and south 464 feet in width.

The larger portion of the structure is one story in height, and shows the main cornice upon the outside at 45 feet above the ground, the interior height being 70 feet. At the centre of the longer sides are projections 416 feet in length, and in the centre of the shorter sides or ends of the building are projections 216 feet in length. In these projections, in the centre of the four sides, are located the main entrances, which are provided with arcades upon the ground floor, and central facades extending to the height of 90 feet.

The East Entrance forms the principal approach for carriages, visitors being allowed to alight at the doors of the building under cover of the arcade. The South Entrance is the principal approach from street cars, the ticket offices being located upon the line of Elm Avenue, with covered ways provided for entrance into the building itself. The Main Portal on the north side communicates with the Art Gallery, and the Main Portal on the west side gives the main passage way to the Machinery and Agricultural Halls.

Upon the corners of the building there are four towers, 75 feet in height, and between the towers and the central projections or entrances there is a lower roof introduced, showing a cornice at 24 feet above the ground. In order to obtain a central feature for the building as a whole, the roof over the central part, for 184 feet square, has been raised above the surrounding portion, and four towers, 48 feet square, rising to 120 feet in height, have been introduced at the corners of the elevated roof.

The areas covered are as follows:

	SQUARE FEET.	ACRES.
Ground floor,	872,320	20.02
Upper floors in projections,	37,344	85
" " in towers,	26,344	60
	<u>936,008</u>	<u>21.47</u>

The general arrangement of the ground plan shows a central avenue or nave 120 feet in width, and extending 1832 feet in length. This is the longest avenue of that width ever introduced into an exhibition building. On either side of this nave there is an avenue 100 feet by 1832 feet in length. Between the nave and side avenues are aisles 48 feet wide, and on the outer sides of the building smaller aisles 24 feet in width. In order to break the great length of the roof lines, three cross avenues or transepts have been introduced of the same widths and in the same relative positions to each other as the nave and avenues running lengthwise, viz.: a central transept 120 feet in width by 416 feet in length, with one on either side of 100 feet by 416 feet, and aisles between of 48 feet. The intersections of these avenues and transepts in the central portion of the building result in dividing the ground floor into nine open spaces, free from supporting columns, and covering in the aggregate an area of 416 feet square. Four of these spaces are 100 feet square, four 100 feet by 120 feet, and the central space or pavilion 120 feet square. The intersections of the 48 feet aisles produce four interior courts 48 feet square, one at each corner of the central space. The main promenades through the nave and central transept are each 30 feet in width, and those through the centre of the side avenues and transepts 15 feet each. All other walks are 10 feet wide, and lead at either end to exit doors.

The following table gives the principal dimensions of the different parts of the building:

DIMENSIONS.

Measurements taken from centre to centre of supporting columns.

Length of building,	1880 feet		
Width of building,	464 "		
CENTRAL AVENUE OR NAVE.			
Length,	1832 feet.		
Width,	120 "		
Height to top of supporting columns,	45 "		
Height to ridge of roof,	70 "		
CENTRAL TRANSEPT.			
Length,	416 "		
Width,	120 "		
Height to top of columns,	45 "		
Height to ridge of roof,	70 "		
SIDE AVENUES.			
Length,	1832 "		
Width,	100 "		
Height to top of columns,	45 "		
Height to ridge of roof,	65 "		
SIDE TRANSEPTS.			
Length,	416 "		
Width,	100 "		
Height to top of columns,	45 "		
Height to ridge of roof,	65 "		
CENTRAL AISLES.			
Length at east end,	744 feet.		
" at west end,	672 "		
Width,	48 "		
Height to roof,	30 "		
SIDE AISLES.			
Length at east end,	744 "		
" at west end,	672 "		
Width,	24 "		
Height to roof,	24 "		
CENTRE SPACE OR PAVILION.			
Ground plan,	120 ft. sq.		
Height to top of supporting columns,	72 "		
Height to ridge of roof,	96 "		
TOWERS OVER COURTS.			
Ground plan,	48 "		
Height to roof,	120 "		
CORNER TOWERS.			
Ground plan,	24 "		
Height to roof,	75 "		

The foundations consist of piers of masonry. The superstructure is composed of wrought iron columns, which support wrought iron roof trusses. These columns are composed of rolled channel bars, with plates riveted to the flanges. Lengthwise of the building the columns are spaced at the uniform distance apart of 24 feet. In the entire structure there are 672 columns, the shortest being 23 feet and the longest 125 feet in length. Their aggregate weight is 2,200,000 pounds. The roof trusses

are similar in form to those in general use for depots and warehouses, and consist of straight rafters with struts and tie-bars. The aggregate weight of iron in the roof trusses and girders is 5,000,000 pounds. This building being a temporary construction, the columns and trusses are so designed that they may be easily taken down and erected again at another site.

The sides of the building, for the height of seven feet from the ground, are finished with brickwork in panels between the columns; above the seven feet, with glazed sash. Portions of the sash are movable for ventilation. The roof covering is of tin upon sheathing boards. The ground flooring is of plank upon sills resting upon the ground, with no open space underneath.

The building stands nearly due east and west, and is lighted almost entirely by side light from the north and south sides. Louvre ventilators are introduced over the central nave and each of the avenues. Skylights are introduced over the central aisles.

Small balconies, or galleries of observation, have been provided in the four central towers of the building at the heights of the different stories.

A complete system of water supply, with ample provision of fire cocks, etc., is provided for protection against fire, and for sanitary purposes.

Offices for foreign commissions are placed along the sides of the building, in the side aisles, in proximity to the products exhibited.

The ground was graded and foundation laid for this building in the autumn of 1874. The erection of iron work at the site commenced on May 8th, 1875; the erection of the iron work was finished December 2d, 1875; and the building was accepted from the contractor February 14th, 1876. The cost of the building was \$1,580,000.

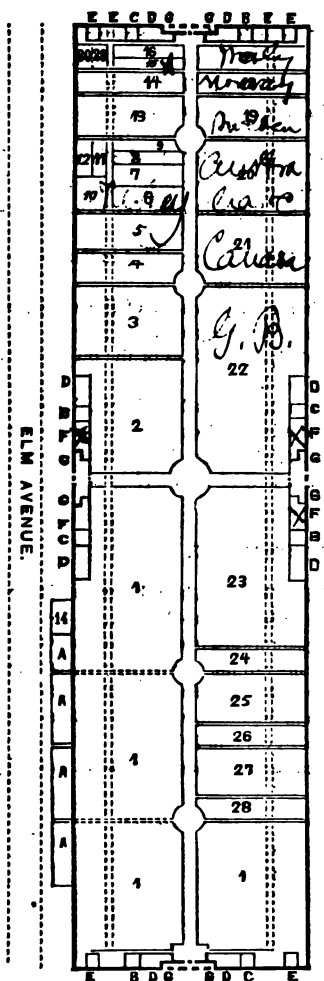
KEY TO THE NOTATION.

THE location of objects in the Main Building is shown by a letter and figure, indicating the nearest column of the building. The letters—A, B, C, to U—designate the successive ranges of columns, proceeding southward from the northern wall across the width of the building; the figures, the number of the column in each range, counting eastwardly from the western wall, the entire length of the building, from 1 to 79. Thus C 5 is the column in the third range from the north, and the fifth from the western end of the building. The southeasternmost column is U 79.

The class of the classification to which each exhibit belongs is indicated by the small figures at the end of the line.

MAIN EXHIBITION BUILDING.

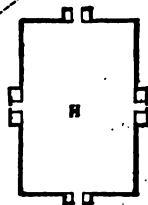
Scale, 360 ft. to 1 in.



CARRIAGE CONCOURSE.

- A Mineral Annex.
- B Ladies' Room.
- C Gentlemen's Room.
- D Water-closets.
- E Offices.
- F Restaurants.
- G Stairway to Galleries.
- H Carriage Annex.

Total Length, 1880 ft. Width, 464 ft. Height, 70 ft.



1. United States.
2. Germany.
3. Austria and Hungary.
4. Russia.
5. Spain and Philippine Islands.
6. Turkey.
7. Egypt.
8. Denmark.
9. Sweden.
10. Portugal.
11. Tunis.
12. Hawaii.
13. Japan.
14. China.
15. Chili.
16. Argentine Republic.
17. Italy.
18. Norway.
19. Sweden.
20. Australasia and other British Colonies.
21. Canada.
22. Great Britain and India.
23. France and Colonies.
24. Switzerland.
25. Belgium.
26. Brazil.
27. Netherlands.
28. Mexico.
29. Peru.
30. Orange Free State.

CLASSIFICATION.

DEPARTMENT I.—MINING AND METALLURGY.

MINERALS, ORES, STONE, MINING PRODUCTS.

CLASS 100.—Minerals, ores, etc. Metallic and non-metallic minerals, exclusive of coal and oil. Collections of minerals systematically arranged; collections of ores and associated minerals; geological collections.

CLASS 101.—Mineral combustibles. Coal, anthracite, semi-bituminous, and bituminous, coal-waste and pressed coal; albertite, asphalt, and asphaltic limestone; bitumen, mineral tar, crude petroleum.

CLASS 102.—Building stones, marbles, slates, etc. Rough, hewn, sawn, or polished, for buildings, bridges, walls, or other constructions, or for interior decoration, or for furniture.

Marble—white, black, or colored—used in building, decoration, statuary, monuments, or furniture, in blocks or slabs not manufactured.

CLASS 103.—Lime, cement, and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used, also artificial stone, concrete, beton.

Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc. Hydraulic and other cement.

Beton mixtures and results, with illustrations of the processes.

Artificial stone for building purposes, building blocks, cornices, etc.

Artificial stone mixtures, for pavements, walls, or ceilings.

Plasters, mastics, etc.

CLASS 104.—Clays, kaolin, siliceous, and other materials for the manufacture of porcelain faience, and of glass, bricks, terra cotta and tiles, and fire brick. Refractory stones for lining furnaces, sandstone, steatite, etc., and refractory furnace materials.

CLASS 105.—Graphite, crude and refined; for polishing purposes; for lubricating, electrotyping, photography, pencils, etc.

CLASS 106.—Lithographic stones, hones, whetstones, grindstones, grinding and polishing materials, sand quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted sizes and grades.

CLASS 107.—Mineral waters, artesian well water, natural brines, saline and alkaline efflorescences and solutions. Mineral fertilizing substances, gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured.

METALLURGICAL PRODUCTS.

CLASS 110.—Precious metals.

CLASS 111.—Iron and steel in the pig, ingot, and bar, plates and sheets, with specimens of slags, fluxes, residues, and products of working.

CLASS 112.—Copper in ingots, bars, and rolled, with specimens illustrating its various stages of production.

CLASS 113.—Lead, zinc, antimony, and other metals, the result of extractive processes.

CLASS 114.—Alloys used as materials, brass, nickel, silver, solder, etc.

MINING ENGINEERING—MODELS, MAPS, AND SECTIONS.

CLASS 120.—Surface and underground surveying and plotting. Projection of underground work, location of shafts, tunnels, etc. Surveys for aqueducts and for drainage.

Boring and drilling rocks, shafts, and tunnels, etc. Surveys for aqueducts, and for ascertaining the nature and extent of mineral deposits.

Construction. Sinking and lining shafts by various methods, driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore, timbering, lagging, and masonry.

Hoisting and delivering at the surface, rock, ore, or miners.

Pumping and draining by engines, buckets, or by adits.

Ventilation and lighting.

Subaqueous mining, blasting, etc.

Hydraulic mining, and the various processes and methods of sluicing and washing auriferous gravel and other superficial deposits.

Quarrying.

CLASS 121.—Models of mines, of veins, etc.

CLASSIFICATION.

DEPARTMENT II.—MANUFACTURES.

CHEMICALS.

CLASS 200.—Chemicals, pharmaceutical preparations.

Mineral acids, and the methods of manufacture. Sulphuric, nitric, and hydrochloric acids.

The common commercial alkalies, potash, soda, and ammonia, with their carbonates.

Salt and its production. Salt from deposits—native salt. Salt by solar evaporation from sea water. Salt by evaporation from water of saline springs or wells. Rock salt. Ground and table salt.

Bleaching powders and chloride of lime.

Yeast powders, baking powders.

CLASS 201.—Oils, soaps, candles, illuminating and other gases.

Oils from mineral, animal, and vegetable sources. Refined petroleum, benzine, naphtha, and other products of the manufacture. Oils from various seeds, refined, and of various degrees of purity. Olive oil, cottonseed oil, palm oil. Animal oils, of various kinds, in their refined state. Oils prepared for special purposes besides lighting and for food. Lubricating oils.

Soaps and detergent preparations.

Candles, stearine, glycerine, paraffine, etc., spermaceti.

Illuminating gas and its manufacture.

Oxygen gas, and its application for heating, lighting, metallurgy, and as a remedial agent.

Chlorine and carbonic acid.

CLASS 202.—Paints, pigments, dyes, colors, turpentine, varnishes, printing inks, writing inks, blacking.

CLASS 203.—Flavoring extracts, essences, perfumery, pomades, cosmetics.

CLASS 204.—Explosive and fulminating compounds; in small quantities only, and under special regulations, shown in the building only by empty cases and cartridges. Black powder of various grades and sizes. Nitro-glycerine and the methods of using and exploding. Giant powder, dynamite, dualin, tri-nitro-glycerine.

CLASS 205.—Pyrotechnics, for display, signaling, missiles.

CERAMICS—POTTERY, PORCELAIN, ETC.

CLASS 206.—Bricks, drain-tiles, terra cotta, and architectural pottery.

CLASS 207.—Fire clay goods, crucibles, pots, furnaces. Chemical stoneware.

CLASS 208.—Tiles, plain, enameled, encaustic; geometric tiles and mosaics. Tiles for pavements and for roofing, etc.

CLASS 209.—Porcelain for purposes of construction. Hardware trimmings, etc.

CLASS 210.—Stone china, for chemists, druggists, etc., earthenware, stoneware, faience, etc.

CLASS 211.—Majolica and Palissy ware.

CLASS 212.—Biscuit-ware, parian, etc.

CLASS 213.—Porcelain for table and toilet use, and for decoration.

GLASS AND GLASSWARE.

CLASS 214.—Glass used in construction and for mirrors. Window glass of various grades of quality and of size. Plate glass, rough, and ground or polished. Toughened glass.

CLASS 215.—Chemical and pharmaceutical glassware, vials, bottles.

CLASS 216.—Decorative glassware.

FURNITURE AND OBJECTS OF GENERAL USE IN CONSTRUCTION AND IN DWELLINGS.

CLASS 217.—Heavy furniture.—Chairs, tables, parlor and chamber suits, office and library furniture, vestibule furniture. Church furniture and decoration.

CLASS 218.—Table furniture.—Glass, china, silver, silver-plate, tea and coffee sets, urns, samovars, epergnes.

CLASS 219.—Mirrors, stained and enameled glass, cut and engraved window-glass, and other decorative objects.

CLASS 220.—Gilt cornices, brackets, picture frames, etc.

CLASS 221.—The nursery and its accessories; children's chairs, walking chairs.

CLASS 222.—Apparatus and fixtures for heating and cooking,—stoves, ranges, heaters, etc.

CLASS 223.—Apparatus for lighting,—gas fixtures, lamps, etc.

CLASS 224.—Kitchen and pantry,—utensils, tinware, and apparatus used in cooking (exclusive of cutlery).

CLASS 225.—Laundry appliances, washing machines, mangles, clothes-wringers, clothes-bars, ironing-tables.

CLASS 226.—Bath-room and water closet, shower bath, earth closet.

CLASS 227.—Manufactured parts of buildings,—sash, blinds, mantels, metal work, etc.

YARNS AND WOVEN GOODS OF VEGETABLE OR MINERAL MATERIALS.

CLASS 228.—Woven fabrics of mineral origin.—Wire cloths, sieve cloth, wire screens, bolting cloth.

Asbestos fibre, spun and woven, with the clothing manufactured from it.

Glass thread, floss, and fabrics.

CLASS 229.—Coarse fibres, of grass, rattan, cocoanut, and bark.

Matting, Chinese, Japanese, palm-leaf, grass, and rushes.

Floor cloths of rattan and cocoanut fibres, aloe fibre, etc.

CLASS 230.—Cotton yarns and fabrics, bleached and unbleached.

Cotton sheeting and shirting, plain and twilled.

Cotton canvas and duck. Awnings, tents.

CLASS 231.—Dyed cotton fabrics, exclusive of prints and calicoes.

CLASS 232.—Cotton prints and calicoes, including handkerchiefs, scarfs, etc.

CLASS 233.—Linen and other vegetable fabrics, uncolored or dyed.

CLASS 234.—Floor oil cloths, and other painted and enameled, tissues, and imitation of leather, with a woven base.

WOVEN AND FELTED GOODS OF WOOL AND MIXTURES OF WOOL.

CLASS 235.—Card wool fabrics.—Yarns, broadcloth, doeskins, fancy cassimeres. Felted goods.

CLASS 236.—Flannels.—Plain flannels, domets, opera and fancy.

- CLASS 237.—Blankets, robes, and shawls.
- CLASS 238.—Combined wool fabrics.—Worsted, yarns, dress goods for women's wear, delaines, serges, poplins, merinoes.
- CLASS 239.—Carpets, rugs, etc.—Brussels, melton, tapestry, Brussels, Axminster, Venetian, ingrain, felted carpetings, druggets, rugs, etc.
- CLASS 240.—Hair, alpaca, goat's hair, camel's hair, and other fabrics, mixed or unmixed with wool.
- CLASS 241.—Printed and embossed woolen cloths, table covers, patent velvets.

SILK AND SILK FABRICS, AND MIXTURES IN WHICH SILK IS THE
PREDOMINATING MATERIAL.

- CLASS 242.—Cocoons and raw silk as reeled from the cocoon, thrown or twisted silks in the gum.
- CLASS 243.—Thrown or twisted silks, boiled off or dyed, in hanks, skeins, or on spools.
- CLASS 244.—Spun silk yarns and fabrics, and the materials from which they are made.
- CLASS 245.—Plain woven silks, lutestrings, sarsnets, satins, serges, foulards, tissues for hat and millinery purposes, etc.
- CLASS 246.—Figured silk piece goods, woven or printed. Upholstery silks, etc.
- CLASS 247.—Crapes, velvets, gauzes, cravats, handkerchiefs, hosiery, knit goods, laces, scarfs, ties, veils, all descriptions of cut and made up silks.
- CLASS 248.—Ribbons, plain, fancy, and velvet.
- CLASS 249.—Bindings, braids, cords, galloons, ladies' dress trimmings, upholsterers', tailors', military, and miscellaneous trimmings.

CLOTHING, JEWELRY, AND ORNAMENTS, TRAVELING EQUIPMENTS.

- CLASS 250.—Ready-made clothing, knit goods and hosiery, military clothing, church vestments, costumes, waterproof clothing, and clothing for special objects.
- CLASS 251.—Hats, caps, boots and shoes, gloves, mittens, etc., straw and palm leaf hats, bonnets, and millinery.
- CLASS 252.—Laces, embroideries, and trimmings for clothing, furniture, and carriages.
- CLASS 253.—Jewelry and ornaments worn upon the person.
- CLASS 254.—Artificial flowers, coiffures, buttons, trimmings, pins, hooks and eyes, fans, umbrellas, sunshades, walking-canes, pipes, and small objects of dress or adornment, exclusive of jewelry. Toys and fancy articles.
- CLASS 255.—Fancy leather work, pocketbooks, toilet cases, traveling equipments, valises, and trunks.
- CLASS 256.—Furs.
- CLASS 257.—Historical collections of costumes, national costumes.

PAPER, BLANK BOOKS, AND STATIONERY.

- CLASS 258.—Stationery for the desk, stationers' articles, pens, pencils, inkstands, and other apparatus of writing and drawing.
- CLASS 259.—Writing paper and envelopes, blank-book paper, bond paper, tracing paper, tracing linen, tissue paper, etc., etc.
- CLASS 260.—Printing paper for books, newspapers, etc.
Wrapping paper of all grades, cartridge and manilla paper, paper bags.
- CLASS 261.—Blank books; sets of account books, specimens of ruling and binding, including blanks, bill heads, etc., book binding.
- CLASS 262.—Cards; playing cards, cardboard, binders' board, pasteboard, paper or cardboard boxes.
- CLASS 263.—Building paper, pasteboard for walls, cane fibre felt for car-wheels, ornaments, etc.
- CLASS 264.—Wall papers, enamelled and colored papers, imitations of leather, wood, etc.

MILITARY AND NAVAL ARMAMENTS, ORDNANCE, FIREARMS, AND HUNTING APPARATUS.

- CLASS 265.—Military small-arms, muskets, pistols, and magazine guns, with their ammunition.
- CLASS 266.—Light artillery, compound guns, machine guns, mitrailleuses, etc.
- CLASS 267.—Heavy ordnance and its accessories.
- CLASS 268.—Knives, swords, spears, and dirks.
- CLASS 269.—Firearms used for sporting and hunting, also other implements for the same purpose.
- CLASS 270.—Traps for game, birds, vermin, etc.

MEDICINE, SURGERY, PROTHESIS.

- CLASS 272.—Medicines; officinal (in any authoritative pharmacopoeia), articles of the materia medica, preparations, unofficinal.
- CLASS 273.—Dietetic preparations, as beef extract and other articles intended especially for the sick.
- CLASS 274.—Pharmaceutical apparatus.
- CLASS 275.—Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc. (except clinical microscopes, etc., for which see Class 324).
- CLASS 276.—Surgical instruments and appliances, with dressings, apparatus for deformities, prothesis, obstetrical instruments.
- CLASS 277.—Dental instruments and appliances.
- CLASS 278.—Vehicles and appliances for the transportation of the sick and wounded, during peace and war, on shore or at sea.

HARDWARE, EDGE TOOLS, CUTLERY, AND METALLIC PRODUCTS.

- CLASS 280.—Hand tools and instruments used by carpenters, joiners, and for wood and stone in general. Miscellaneous hand tools used in industries, such as jewellers', engravers'.
- CLASS 281.—Cutlery, knives, penknives, scissors, razors, razor straps, skates, and implements sold by cutlers.
- CLASS 282.—Emery and sand paper, polishing powders, polishing and burnishing stones.
- CLASS 283.—Metal hollow ware, ornamental castings.
- CLASS 284.—Hardware used in construction, exclusive of tools and implements. Spikes, nails, screws, tacks, bolts, locks, latches, hinges, pulleys. Plumbers' and gas fitters' hardware, furniture fittings, ships' hardware, saddlers' hardware, and harness fittings and trimmings.

FABRICS OF VEGETABLE, ANIMAL, OR MINERAL MATERIALS.

- CLASS 285.—India rubber goods and manufactures.
- CLASS 286.—Brushes.
- CLASS 287.—Ropes, cordage.
- CLASS 288.—Flags, insignia, emblems.
- CLASS 289.—Wooden and basket ware, papier mache.
- CLASS 290.—Undertakers' furnishing goods, etc.
- CLASS 291.—Galvanized iron work.

CARRIAGES, VEHICLES, AND ACCESSORIES.

(For farm vehicles and railway carriages, see Departments of Agriculture and Machinery.)

- CLASS 292.—Pleasure carriages.
- CLASS 293.—Traveling carriages, coaches, stages, omnibuses, hearses, Bath chairs, velocipedes, baby coaches.
- CLASS 294.—Vehicles for movement of goods and heavy objects, carts, wagons, trucks.
- CLASS 295.—Sleighs, sledges, sleds, etc.
- CLASS 296.—Carriage and horse furniture, harness and saddlery, whips, spurs, horse blankets, carriage robes, rugs, etc.

CLASSIFICATION.

DEPARTMENT III.—EDUCATION AND SCIENCE.

EDUCATIONAL SYSTEMS, METHODS, AND LIBRARIES.

CLASS 300.—Elementary instruction. Infant schools and kindergartens, arrangements, furniture, appliances, and modes of training.

Public schools, graded schools, buildings and grounds, equipments, courses of study, methods of instruction, text-books, apparatus, including maps, charts, globes, etc.; pupils' work, including drawing and penmanship; provisions for physical training.

CLASS 301.—Higher education. Academies and high schools.

Colleges and universities. Buildings and grounds; libraries, museums of zoology, botany, mineralogy, art, and archeology; apparatus for illustration and research, mathematical, physical, chemical, and astronomical courses of study; text-books, catalogues, libraries, and gymnasiums.

CLASS 302.—Professional schools, theology, law, medicine, and surgery, dentistry, pharmacy, mining, engineering, agriculture, and mechanical arts, art and design, military schools, naval schools, normal schools, commercial schools, music.

Buildings, text-books, libraries, apparatus, methods, and other accessories for professional schools.

CLASS 303.—Institutions for instruction of the blind, deaf, and dumb, and the feeble-minded.

CLASS 304.—Education reports and statistics.

National bureau of education.

State, city, and town systems.

College, university, and professional systems.

CLASS 305.—Libraries, history, reports, statistics, and catalogues.

CLASS 306.—School and text-books, dictionaries, encyclopædias, gazetteers, directories, index volumes, bibliographies, catalogues, almanacs, special treatises, general and miscellaneous literature, newspapers, technical and special newspapers and journals, illustrated papers, periodical literature.

INSTITUTIONS AND ORGANIZATIONS.

CLASS 310.—Institutions founded for the increase and diffusion of knowledge. Such as the Smithsonian Institution, the Royal Institution, the Institute of France, British Association for the Advancement of Science, and the American Association, etc., their organization, history, and results.

CLASS 311.—Learned and scientific associations. Geological and mineralogical societies, etc. Engineering, technical, and professional associations. Artistic, biological, zoological, medical schools, astronomical observatories.

CLASS 312.—Museums, collections, art galleries, exhibitions of works of art and industry. Agricultural fairs, state and county exhibitions, national exhibitions. International exhibitions.

Scientific museums and art museums.

Ethnological and archeological collections.

CLASS 313.—Music and the drama.

SCIENTIFIC AND PHILOSOPHICAL INSTRUMENTS AND METHODS.

CLASS 320.—Instruments of precision, and apparatus of physical research, experiment, and illustration.

Astronomical instruments and accessories, used in observations.

Transits, mural circles, equatorials, collimators.

Geodetic and surveying instruments. Transits, theodolites, needle compasses. Instruments for surveying underground in mines, tunnels, and excavations.

Nautical astronomical instruments. Sextants, quadrants, repeating circles, dip-sectors.

Leveling instruments and apparatus. Carpenters' and builders' levels, hand levels, water levels, engineers' levels.

Instruments for deep-sea sounding and hydrographic surveying.

Meteorological instruments and apparatus.

Thermometers, pyrometers.

Barometers.

Hygrometers and rain gauges.

Maps, bulletins.

Blanks for reports, methods of recording, reducing, and reporting observations.

CLASS 321.—Indicating and registering apparatus, other than meteorological; mechanical calculation.

Viameters, pedometers, perambulators.

Gas meters.

Water meters, current meters, ships' logs, electrical logs.

Tide registers.

Apparatus for printing consecutive numbers.

Counting machines, calculating engines, arithmometers.

CLASS 322.—Weights, measures, weighing and meteorological apparatus.

Measures of length; graduated scales on wood, metal, ivory, tape, or ribbon; steel tapes, chains, rods, verniers, rods, and graduated scales for measuring lumber, goods in packages, casks, etc.; gaugers' tools and methods.

Measures of capacity for solids and liquids.

Weights. Scales and graduated beams for weighing; assay balances, chemical balances. Ordinary scales for heavy weights; weighing locomotives and trains of cars. Postal balances. Hydrometers, alchometers, lactometers, etc.; gravimeters. (*See Class 371.*)

CLASS 323.—Chronometric apparatus.

Chronometers. Astronomical clocks. Church and metropolitan clocks. Ordinary commercial clocks. Pendulum and spring clocks.

Marine clocks. Watches. Clepsydras, hour glasses, sun dials. Chronographs, electrical clocks. Metronomes.

CLASS 324.—Optical and thermotic instruments and apparatus.

Mirrors, plane and spherical.

Lenses and prisms.

Spectacles and eyeglasses, field and opera glasses, graphoscopes and stereoscopes.

Cameras and photographic apparatus.

Microscopes.

Telescopes.

Apparatus for artificial illumination, including electric, oxyhydrogen, and magnesium light.

Stereopticons.

Photometric apparatus.

Spectroscopes and accessories for spectrum analysis.

Polariscopes, etc.

Thermotic apparatus.

CLASS 325.—Electrical apparatus.

Friction machines.

Condensers and miscellaneous apparatus to illustrate the discharge.

Galvanic batteries and accessories to illustrate dynamical electricity.

Electro-magnetic apparatus.

Induction machines, Runkorff coils, etc.

Magnets and magneto-electrical apparatus.

CLASS 326.—Telegraphic instruments and methods.

Batteries and forms of apparatus used in generating the electrical currents for telegraphic purposes.

Conductors and insulators, and methods of support, marine telegraph cables.

Apparatus of transmission; keys, office accessories, and apparatus.

Receiving instruments, relay magnets, local circuits.

Semaphoric and recording instruments.

Codes, signs, or signals.

Printing telegraphs for special uses.

Electrographs.

Dial or cadran systems.

Apparatus for automatic transmission.

CLASS 327.—Musical instruments and acoustic apparatus.

Percussion instruments, drums, tamborines, cymbals, triangles.

Pianos.

Stringed instruments other than pianos.

Automatic musical instruments, music boxes.

Wind instruments of metal and of wood.

Harmoniums.

Church organs and similar instruments.

Speaking machines.

Vocal music.

ENGINEERING, ARCHITECTURE, CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

(For Agricultural Engineering, see Class 680.)

(For Mining Engineering, see Class 120.)

CLASS 330.—Civil engineering. Land surveying, public lands, etc.

River, harbor, and coast surveying. Construction and maintenance of roads, streets, pavements, etc. Surveys and location of towns and cities, with systems of water supply and drainage. Arched bridges of metal, stone, brick, or beton. Trussed girder bridges. Suspension bridges. Canals, aqueducts, reservoirs, construction of dams. Hydraulic engineering and means of arresting and controlling the flow of water.

Submarine constructions, foundations, piers, docks, etc.

CLASS 331.—Dynamic and industrial engineering. Construction and working of machines; examples of planning and construction of manufacturing and metallurgical establishments.

CLASS 332.—Railway engineering. Location of railways, and the construction and management of railways.

CLASS 333.—Military engineering.

CLASS 334.—Naval engineering.

CLASS 335.—Topographical map. Marine and coast charts.

Geological maps and sections.

Botanical, agronomical, and other maps, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

Meteorological maps and bulletins. Telegraphic routes and stations.

Railway and route maps. Terrestrial and celestial globes. Relief maps and models of portions of the earth's surface. Profiles of ocean beds and routes of submarine cables.

PHYSICAL, SOCIAL, AND MORAL CONDITION OF MAN.

CLASS 340.—Physical development and condition.

The nursery and its accessories.

Gymnasiums, games, and manly sports. Skating, walking, climbing, ball-playing, acrobatic exercises; rowing, hunting, etc.

CLASS 341.—Alimentation. Markets; preparation and distribution of food.

CLASS 342.—The dwelling. Sanitary conditions and regulations. Domestic architecture.

Dwellings characterized by cheapness, combined with the conditions essential to health and comfort.

Fire-proof structures.

Hotels, club-houses, etc.

Public baths.

CLASS 343.—Commercial systems and appliances.

Mercantile forms and methods, counting-houses and offices.

Banks and banking.

Saving and trust institutions.

Insurance; fire, marine, life, etc.

Commercial organizations, boards of trade, merchants', produce, and stock exchanges.

Corporations for commercial and manufacturing purposes.

Railway and other transportation companies.

Building and loan associations.

CLASS 344.—Money. Mints and coining.

Collections of current coins.

Historical collections.

Tokens, etc.

Bank notes and other paper circulating mediums.

Commercial paper, bills of exchange, etc.

Securities for payment of money, stocks, bonds, mortgages, ground rents, quit rents.

Precautions against counterfeiting and misappropriation of money.

CLASS 345.—Government and law. Various systems of government.

Departments of government. Revenue and taxation, military organization, executive powers, legislative forms and authority, judicial functions and systems, police regulations, government charities.

International relations; international law; diplomatic and consular service, etc., allegiance and citizenship; naturalization.

Codes.

Municipal government.
 Protection of property in inventions.
 Postal system and appliances.
 Punishment of crime.
 Prisons and prison management and discipline; police stations;
 houses of correction; reform schools; naval or marine discipline; punishment at sea.

CLASS 346.—Benevolence. General hospitals.

Special hospitals for the eye and ear, for women, etc.
 Hospitals for contagious and infectious diseases.
 Hospitals for the insane—under State control, and private asylums.
 Quarantine systems and organizations.
 Sanitary regulations of cities.
 Dispensaries.
 Inebriate asylums.
 Lying-in asylums.
 Magdalen asylums.
 Asylums for infants and children. Foundling and orphan asylums, children's aid societies.
 Homes for the aged and infirm; homes for aged men and women; soldiers' homes; homes for the maimed and deformed; sailors' homes.
 Treatment of paupers. Almshouses, feeding the poor, lodging houses.
 Emigrant aid societies.
 Treatment of aborigines.
 Prevention of cruelty to animals.

CLASS 347.—Co-operative associations.

Political societies and organizations.
 Military organizations and orders.
 Trade unions and associations.
 Industrial organizations.
 Secret orders and fraternities.

CLASS 348.—Religious organizations and systems. Origin, nature, growth, and extent of various religious systems and faiths. Statistical, historical, and other facts.

Religious orders and societies, and their objects.
 Societies and organizations for the propagation of systems of religion by missionary effort.
 Spreading the knowledge of religious systems by publications.
 Bible societies, tract societies, colportage.
 Systems and methods of religious instruction and training for the young.
 Sunday-schools, furniture and apparatus.
 Associations for religious or moral improvement.
 Dispensing charities, church guilds.

CLASS 349.—Art and industrial exhibitions. Agricultural fairs, state and county exhibitions, national exhibitions, international exhibitions, international congresses, etc.

CLASSIFICATION.

DEPARTMENT IV.—ART.

SCULPTURE.

- CLASS 400.—Figures and groups in stone, metal, clay, or plaster;
CLASS 401.—Bas-reliefs, in stone or metal; electrotype copies.
CLASS 402.—Medals, pressed and engraved; electrotypes of medals.
CLASS 403.—Hammered and wrought work—*repoussé* and *rehaussé* work, embossed and engraved relief work.
CLASS 404.—Cameos, intaglios, engraved stones, dies, seals, etc.
CLASS 405.—Carvings in wood, ivory, and metal.

PAINTING.

- CLASS 410.—Paintings in oil on canvas, panels, etc.
CLASS 411.—Water color pictures; aquarelles, miniatures, etc.
CLASS 412.—Frescoes, cartoons for frescoes, etc.
CLASS 413.—Painting with vitrifiable colors. Pictures on porcelain, enamel, and metal.

ENGRAVING AND LITHOGRAPHY.

- CLASS 420.—Drawings with pen, pencil, or crayons.
CLASS 421.—Line engravings from steel, copper, or stone.
CLASS 422.—Wood engravings.
CLASS 423.—Lithographs, zincographs, etc.
CLASS 424.—Chromo-lithographs.

PHOTOGRAPHY.

- CLASS 430.—Photographs on paper, metal, glass, wood, fabrics, or enamel surfaces.
CLASS 431.—Prints from photo-relief plates, carbon prints, etc.
CLASS 432.—Photo-lithographs, etc.
CLASS 433.—Photographic apparatus and supplies.

INDUSTRIAL AND ARCHITECTURAL DESIGNS, MODELS, AND DECORATIONS.

- CLASS 440.—Industrial designs.
CLASS 441.—Architectural designs; studies and fragments, representations and projects of edifices; restorations from ruins and from documents.
CLASS 442.—Decoration of interiors of buildings.
CLASS 443.—Artistic hardware and trimmings, artistic castings, forged metal work for decoration, etc.

DECORATION WITH CERAMIC AND VITREOUS MATERIALS, MOSAIC AND INLAID WORK.

- CLASS 450.—Mosaic and inlaid work in stone.
CLASS 451.—Mosaic and inlaid work in tiles, tessaræ, glass, etc.
CLASS 452.—Inlaid work in wood and metal, parquetry, tables, etc.
CLASS 453.—Stained glass.
CLASS 454.—Miscellaneous objects of art.

CLASSIFICATION.

DEPARTMENT V.—MACHINERY.

MACHINES, TOOLS, AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, AND THE EXTRACTIVE ARTS.

- CLASS 500.—Rock drilling.
CLASS 501.—Well and shaft boring.
CLASS 502.—Machines, apparatus, and implements for coal cutting.
CLASS 503.—Hoisting machinery and accessories.
CLASS 504.—Pumping, draining, and ventilating.
CLASS 505.—Crushing, grinding, sorting, and dressing. Breakers, stamps, mills, pans, screens, sieves, jigs, concentrators.
CLASS 506.—Furnaces, smelting apparatus, and accessories.
CLASS 507.—Machinery used in Bessemer process.
CLASS 508.—Chemical manufacturing machinery. Electroplating. Paint and powder mills. Blacking and soap-making machinery.
CLASS 509.—Gas machinery and apparatus.

MACHINES AND TOOLS FOR WORKING METAL, WOOD, AND STONE.

- CLASS 510.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, etc., cork-cutting machines.
CLASS 511.—Direct acting steam sawing machines, with gang saws. Bark mills.
CLASS 512.—Rolling mills, bloom squeezers, blowing fans. Rivet, nail, bolt, and tack making machinery.
CLASS 513.—Furnaces and apparatus for casting metals, with specimens of work.
CLASS 514.—Steam, trip, and other hammers, with specimens of work, anvils, forges, bellows.
CLASS 515.—Planing, drilling, slotting, turning, shaping, punching, stamping, cutting, and coining machines. Wheel cutting and dividing machines, emery wheels, drills, taps, gauges, dies, etc. Grindstones.
CLASS 516.—Stone-sawing and planing machines, dressing, shaping, and polishing, sand blasts, Tilghman's machines, glass-grinding machines, etc.
CLASS 517.—Brick, pottery, and tile machines. Machines for making artificial stone.
CLASS 518.—Furnaces, moulds, blowpipes, etc., for making glass and glassware.
CLASS 519.—Tools, implements, etc., for working metal, wood, and stone.

MACHINES AND IMPLEMENTS OF SPINNING, WEAVING, FELTING, AND PAPER MAKING.

- CLASS 520.—Machines for the manufacture of silk goods.
CLASS 521.—Machines for the manufacture of cotton goods.
CLASS 522.—Machines for the manufacture of woollen goods, carpets, and tapestry.
CLASS 523.—Machines for the manufacture of linen goods.

CLASS 524.—Machines for the manufacture of rope and twine, and miscellaneous fibrous materials.

CLASS 525.—Machines for the manufacture of paper and felting.

CLASS 526.—Machines for the manufacture of india-rubber goods.

CLASS 527.—Machines for the manufacture of mixed fabrics.

CLASS 528.—Machines for the manufacture of wire cloth.

MACHINES, APPARATUS, AND IMPLEMENTS USED IN SEWING AND MAKING CLOTHING AND ORNAMENTAL OBJECTS.

CLASS 530.—Machines used in the manufacture of lace, floor-cloths, fancy embroidery, hair, ribbons, etc.

CLASS 531.—Sewing and knitting machines, clothes, corset, hat, and bonnet making machines.

CLASS 532.—Machines for preparing and working leather.

CLASS 533.—Machines for making boots and shoes.

CLASS 534.—Machines for ironing, drying, scouring, and cleaning.

CLASS 535.—Machines for making clocks and watches.

CLASS 536.—Machines for making jewelry.

CLASS 537.—Machines for making buttons, pins, needles, etc.

CLASS 538.—Pipes for smoking.

**MACHINES AND APPARATUS FOR TYPESETTING, PRINTING, STAMPING, EMBOS-
ING, AND FOR MAKING BOOKS, AND PAPER WORKING.**

CLASS 540.—Printing, stamping, embossing, and lithographing presses.

CLASS 541.—Typecasting machines, apparatus of stereotyping.

CLASS 542.—Types and typesetting machines. Type-writing machines.

CLASS 543.—Printers' furniture.

CLASS 544.—Bookbinding machines.

CLASS 545.—Paper-folding machines.

CLASS 546.—Paper and card cutting machines, paper box machines.

CLASS 547.—Envelope machines.

MOTORS AND APPARATUS FOR THE GENERATION AND TRANSMISSION OF POWER.

CLASS 550.—Boilers and all steam or gas generating apparatus for motive purposes.

CLASS 551.—Water-wheels, water engines, hydraulic rams, windmills.

CLASS 552.—Steam, air, or gas engines, electro-magnetic engines.

CLASS 553.—Apparatus for the transmission of power, shafting, belting, cables, transmission of power by compressed air, etc., gearing, cables.

CLASS 554.—Screw propellers, wheels for the propulsion of vessels, and other motors.

CLASS 555.—Implements and apparatus used in connection with motors. steam gauges, manometers, etc. Anti-friction metals.

HYDRAULIC AND PNEUMATIC APPARATUS, PUMPING, HOISTING, AND LIFTING.

CLASS 560.—Pumps and apparatus for lifting and moving liquids.

CLASS 561.—Pumps and apparatus for moving and compressing air or gas.

CLASS 562.—Pumps and blowing engines, blowers and ventilating apparatus.

CLASS 563.—Hydraulic jacks, presses, elevators, lifts, meters, cranes.

CLASS 564.—Fire engines, hand, steam, or chemical, and fire extinguishing apparatus, hose, ladders, and fire-escapes, etc.

CLASS 565.—Beer engines, soda-water machines, bottling apparatus, corking machines.

CLASS 566.—Stop valves, cocks, pipes, etc.

CLASS 567.—Diving apparatus and machinery.

CLASS 568.—Ice machines.

RAILWAY PLANT, ROLLING STOCK, AND APPARATUS.

CLASS 570.—Locomotives, models, drawings, plans, etc.

CLASS 571.—Carriages, wagons, trucks, cars, etc.

- CLASS 572.—Brakes, buffers, couplings, and snow-plows.
 CLASS 573.—Wheels, tires, axles, bearings, springs, etc.
 CLASS 574.—Permanent ways, ties, chairs, switches, etc.
 CLASS 575.—Station arrangements, signals, water-cranes, turn-tables.
 CLASS 576.—Miscellaneous locomotive attachments.
 CLASS 577.—Street railways and cars.

MACHINES USED IN PREPARING AGRICULTURAL PRODUCTS.

- CLASS 580.—Flour mills.
 CLASS 581.—Sugar refining machines.
 CLASS 582.—Confectioners' machinery.
 CLASS 583.—Oil-making machinery.
 CLASS 584.—Tobacco manufacturing machines.
 CLASS 585.—Mills for spices, coffee, etc.
 CLASS 586.—Machines for preparing fancy goods.
 CLASS 587.—Machines for preparing malt and spirituous liquors.

AERIAL, PNEUMATIC, AND WATER TRANSPORTATION.

- CLASS 590.—Suspended cable railways.
 CLASS 591.—Transporting cables.
 CLASS 592.—Balloons, flying machines, etc.
 CLASS 593.—Pneumatic railways, pneumatic dispatch.
 CLASS 594.—Boats and sailing vessels. Sailing vessels used in commerce, Sailing vessels used in war. Yachts and pleasure boats. Rowing boats of all kinds. Life boats and salvage apparatus, with life rafts, belts, etc. Submarine armor, diving bells, etc. Ice boats. Models and drawings.
 CLASS 595.—Steamships, steamboats, and all vessels propelled by steam.
 CLASS 596.—Vessels for carrying telegraph cables and railway trains, also coal barges, water boats, and dredging machines, screw and floating docks, and for other special purposes.
 CLASS 597.—Steam capstans, windlass, deck-winches, and steering apparatus, fans.

MACHINERY AND APPARATUS ESPECIALLY ADAPTED TO THE REQUIREMENTS OF THE EXHIBITION.

Boilers, engines, cranes, pumps, etc.

CLASSIFICATION.

DEPARTMENT VI.—AGRICULTURE.

ARBORICULTURE AND FOREST PRODUCTS.

- CLASS 600.—Timber and trunks of trees, entire or in transverse or truncated sections, with specimens of barks, leaves, flowers, seed vessels, and seed. Masts, spars, knees, longitudinal sections of trees, railway ties, ship timber, lumber roughly sawn; as planks, shingles, lath, and staves. Timber and lumber prepared in various ways to resist decay and combustion; as by injection of salts of copper and zinc.
- CLASS 601.—Ornamental woods used in decorating and for furniture; as veneers of mahogany, rosewood, ebony, walnut, maple, and madrona.
- CLASS 602.—Dyewoods, barks, and galls for coloring and tanning.
- CLASS 603.—Gums, resins, caoutchouc, gutta percha, vegetable wax.
- CLASS 604.—Lichens, mosses, fungi, pulu, ferns.
- CLASS 605.—Seeds, nuts, etc., for food and ornamental purposes.
- CLASS 606.—Forestry.—Illustrations of the art of planting, managing, and protecting forests. Statistics.
- CLASS 607.—Fruit trees and shrubs.

POMOLOGY.

- CLASS 610.—Fruits of temperate and semi-tropical regions; as apples, pears, quinces, peaches, nectarines, apricots, plums, grapes, cherries, strawberries, and melons.
- CLASS 611.—Tropical fruits and nuts, oranges, bananas, plantains, lemons, pine-apples, pomegranates, figs, cocoanuts.

AGRICULTURAL PRODUCTS.

- CLASS 620.—Cereals, grasses, and forage plants.
- CLASS 621.—Leguminous plants and esculent vegetables.
- CLASS 622.—Roots and tubers.
- CLASS 623.—Tobacco, hops, tea, coffee, spices, condiments, herbs.
- CLASS 624.—Seeds and seed vessels.

LAND ANIMALS.

- CLASS 630.—Horses, asses, mules.
- CLASS 631.—Horned cattle.
- CLASS 632.—Sheep.
- CLASS 633.—Goats, alpaca, llama, camel.
- CLASS 634.—Swine.
- CLASS 635.—Poultry and birds.
- CLASS 636.—Dogs and cats.
- CLASS 637.—Wild animals.
- CLASS 638.—Insects, useful and injurious. Honey bees, cochineal, silk-worms.

MARINE ANIMALS, FISH CULTURE, AND APPARATUS.

- CLASS 640.—Marine mammals.—Seals, cetaceans, etc., specimens living in aquaria, or stuffed, salted, preserved in alcohol, or otherwise.
- CLASS 641.—Fishes, living or preserved.
- CLASS 642.—Pickled fish, and parts of fish used for food.
- CLASS 643.—Crustaceans, echinoderms, *beche de mer*.
- CLASS 644.—Mollusks, oysters, clams, etc., used for food.
- CLASS 645.—Shells, corals, and pearls.
- CLASS 646.—Whalebone, shagreen, fish-glue, isinglass, sounds, fish-oil.
- CLASS 647.—Instruments and apparatus of fishing.—Nets, baskets, hooks, and other apparatus used in catching fish.
- CLASS 648.—Fish culture.—Aquaria, hatching pools, vessels for transporting roe and spawn, and other apparatus used in fish breeding, culture, or preservation.

ANIMAL AND VEGETABLE PRODUCTS.

(Used as food or as materials.)

- CLASS 650.—Sponges, seaweed, and other growths used for food or in the arts.
- CLASS 651.—The dairy.—Milk, cream, butter, cheese.
- CLASS 652.—Hides, furs, and leather, tallow, oil, and lard, ivory, bone, horn, glue.
- CLASS 653.—Eggs, feathers, down.
- CLASS 654.—Honey and wax.
- CLASS 655.—Animal perfumes; as musk, civet, *amberggris*.
- CLASS 656.—Preserved meats, vegetables, and fruits. Dried, or in cans or jars.
Meat and vegetable extracts.
- CLASS 657.—Flour; crushed and ground cereals, decorticated grains.
- CLASS 658.—Starch and similar products.
- CLASS 659.—Sugar and syrups.
- CLASS 660.—Wines, alcohol, and malt liquors.
- CLASS 661.—Bread, biscuits, crackers, cakes, confectionery, cocoa, chocolate, etc.
- CLASS 662.—Vegetable oils, oil cake.

TEXTILE SUBSTANCES OF VEGETABLE OR ANIMAL ORIGIN.

- CLASS 665.—Cotton on the stem, in the boll, ginned, and baled.
- CLASS 666.—Hemp, flax, jute, ramie, etc., in primitive forms and in all stages of preparation for spinning.
- CLASS 667.—Wool in the fleece, carded, and in bales.
- CLASS 668.—Silk in the cocoon and reeled.
- CLASS 669.—Hair, bristles.

MACHINES, IMPLEMENTS, AND PROCESSES OF MANUFACTURE.

- CLASS 670.—Tillage.—Manual implements, spades, hoes, rakes. Animal power machinery, plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam power machinery, plows, breakers, harrows, cultivators.
- CLASS 671.—Planting.—Manual implements, corn-planters and hand-drills. Animal power machinery, grain and manure drills, corn and cotton planters. Steam power machinery, grain and manure drills.
- CLASS 672.—Harvesting.—Manual implements; grain-cradles, sickles, reaping-hooks. Animal power machinery, reapers and headers. Mowers, tedders, rakes, hay elevators, and hay loaders.
Potato diggers.
- CLASS 673.—Preparatory to marketing.—Thrashers, clover-hullers, corn-shellers, winnowers, hay, cotton, flax, jute, ramie, wine, oil, and sugar making apparatus. Cleaners and smutters. Horse powers.

CLASS 674.—Applicable to farm economy.—Portable and stationary engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, incubators, edged tools, mills, meat choppers.

CLASS 675.—Dairy fittings and appliances.—Churns for hand and power, butter-workers, cans and pails, cheese-presses, vats, and apparatus, ice-cream freezers, cedar-ware.

AGRICULTURAL ENGINEERING AND ADMINISTRATION.

CLASS 680.—Laying out and improving farms.—Clearing (stump extractors), construction of roads, draining, irrigating, models of fences, gates, drains, out-falls, dams, embankments, irrigating machinery, stack building and thatching.

CLASS 681.—Commercial fertilizers, phosphatic, ammoniacal, calcareous, etc.

CLASS 682.—Transportation.—Wagons, carts, sleds, harness, yokes, traction engines, and apparatus for road making and excavating.

CLASS 683.—Farm buildings.—Models and drawings of farm houses and tenements, barns, stables, hop-houses, fruit-driers, ice-houses, windmills, granaries, barracks, apiaries, cocooneries, aviaries, abattoirs, and dairies.

TILLAGE AND GENERAL MANAGEMENT.

CLASS 690.—Systems of planting and cultivation.

CLASS 691.—Systems of draining and application of manures.

CLASS 692.—Systems of breeding and stock feeding, training.

CLASS 693.—Veterinary surgery and appliances.

CLASSIFICATION.

DEPARTMENT VII.—HORTICULTURE.

ORNAMENTAL TREES, SHRUBS, AND FLOWERS.

- CLASS 700.—Ornamental trees and shrubs, evergreens.
CLASS 701.—Herbaceous perennial plants.
CLASS 702.—Bulbous and tuberous rooted plants.
CLASS 703.—Decorative and ornamental foliage plants.
CLASS 704.—Annuals and other soft-wooded plants, to be exhibited in successive periods during the season.
CLASS 705.—Roses.
CLASS 706.—Cactacea.
CLASS 707.—Ferns, their management in the open air and in ferneries, wardian cases, etc.
CLASS 708.—New plants, with statement of their origin.
CLASS 709.—Floral designs, etc.—Cut flowers, bouquets, preserved flowers, leaves, seaweeds. Illustrations of plants and flowers.—Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, models of fruits, vegetables, and flowers.

HOTHOUSES, CONSERVATORIES, GRAPERIES, AND THEIR MANAGEMENT.

- CLASS 710.—Hothouse and conservatory plants.
CLASS 711.—Fruit trees under glass.
CLASS 712.—Orchids and parasitic plants.
CLASS 713.—Forcing and propagation of plants.
CLASS 714.—Aquatic plants under glass, or in aquaria, etc.
CLASS 715.—Horticultural buildings, propagating houses, hotbeds, etc., and modes of heating them. Structures for propagating and forcing small fruits.
CLASS 716.—Portable or movable orchard houses and graperies, without artificial heat. Frames, beds.

GARDEN TOOLS, ACCESSORIES OF GARDENING.

- CLASS 720.—Tools and implements.—Machines for the transplanting of trees, shrubs, etc. Portable forcing pumps, for watering plants in greenhouses and methods of watering the garden and lawn.
CLASS 721.—Receptacles for plants.—Flower pots, plant-boxes, tubs, fern cases, jardinieres, etc. Window gardening. Plant and flower stands, ornate designs in iron, wood, and wire.
CLASS 722.—Ornamental wirework, viz.: fences, gates, trellis bordering of flower beds, porches. Park seats, chairs, garden statuary, vases, fountains, etc. Designations, labels, numbers.

GARDEN DESIGNING, CONSTRUCTION, AND MANAGEMENT.

- CLASS 730.—Laying out gardens.—Designs for the laying out of gardens, and the improvement of private residences. Designs for commercial gardens, nurseries, graperies. Designs for the parterre. Books on gardening.
CLASS 731.—Treatment of water for ornamental purposes, cascades, fountains, reservoirs, lakes.
CLASS 732.—Formation and after-treatment of lawns.
CLASS 733.—Garden construction, buildings, etc.—Rockwork, grottoes. Rustic constructions and adornments for private gardens and public grounds
CLASS 734.—Planting, fertilizing, and cultivating.

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ESTABLISHED 1810.

W.A. DROWN & CO.

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UMBRELLAS
AND
PARASOLS.



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TWENTY-EIGHTH ANNUAL REPORT OF

THE PENN MUTUAL LIFE INSURANCE CO.

OFFICE, 921 CHESTNUT STREET, PHILADELPHIA.

ASSETS, JAN. 1st, 1876.

United States bonds, Philadelphia and other stocks and loans,	\$1,770,477 50
Mortgages and ground rents upon property appraised at \$534,200, all first liens,	1,971,308 84
Real estate owned by Co., -	349,186 53
Premium notes and loans secured by collateral,	853,610 13
Cash on hand and in trust companies,	191,916 62
Scrip dividends held by Co., -	113,030 00
Balance in hand of agents, -	17,953 48
All other securities, -	236,846 14
	\$5,504,329 24

LIABILITIES.

Losses reported, but not yet due,	\$50,920 00
Reserve at 4 per cent interest, required to insure outstanding risks, -	4,557,118 00
Scrip yet outstanding,	113,030 00
	4,720,438 00
Surplus to policy holders, 4 per cent. basis, -	747,891 24
Surplus to policy holders, 4 1/2 per cent. basis, -	1,083,091 24
Total number of policies issued in 1875, -	2,093
Policies in force Jan. 1, 1876,	9,545
Amount at risk,	\$26,389,363 00

SAMUEL C. HUEY, President.
H. S. STEPHENS, Second Vice-President.
HENRY AUSTIE, Secretary.

SAMUEL E. STOKES, Vice-President.
JAMES WEIR MASON, Actuary.



HASELTINE GALLERIES,
1125 and 1127 Chestnut St., Philadelphia.

DEPT. I.—MINING AND METALLURGY.

UNITED STATES.

Minerals, Ores.

Minerals, Ores, Stone, Mining Products.

- 1 Cambria Iron & Steel Co., Johnstown, Pa. W 66.
- a Carbamate, fossil, and hematite ores from Johnstown, Frankstown, Marklesburg, Yellow Creek, Henrietta, and Springfield mines; specular, magnetic, red hematite, Lake Superior, and Lake Champlain ores; manganese Iron Mountain ores. 100
- b B, C, D, and E coal from Johnstown and Bennington mines; Belgian oven and pit coke. 101
- c Lime and ganister from near Hollidaysburg, Henrietta, and Ganister mines. 103
- 2 Wharton, Joseph, Camden, N. J.—Nickel ores. T 63. 100
- 3 Sharswood, Wm., Philadelphia, Pa.—T 70.
- a Magnetic iron ore from the Moratuc Furnace mines, Danbury, N. C.; ores and minerals from North Carolina. 100
- b Coal from North Carolina. 101
- c Marble from North Carolina. 102
- d Steatite, agalmatolite, etc. from North Carolina. 104
- 4 Hatch, John, San Francisco, Cal.—Minerals of the Pacific states and territories, Mexico, Central and South America, China, Japan, etc. T 67. 100
- 5 Barton, Chas., Philadelphia, Pa.—Ores from "Blazing Star" silver mine, Colorado. T 71. 100
- 6 Adams, J. Howe, Philadelphia, Pa.—Ore from "Blue Jacket" silver mine, Montana district, Colorado. T 71. 100
- 7 Benton, Caroline C., Philadelphia, Pa.—Iron ores from St. Lawrence and Lewis counties, N. Y. T 67. 100
- 8 Foote, A. E., M.D., 3725 Lancaster avenue, Philadelphia, Pa.—Collection of minerals; elementary collection of minerals for students illustrating principal species; all grand divisions in Dana; every chemical element; every system of crystallization; trimorphism, 100 specimens, averaging four square inches, mostly crystallized, printed label of species, composition, locality attached—\$10.00; crystallized amazon stone, feldspar, quartz, Brookite, rutile rosettes, perovskite, hodotetranite (new mineral, Koenig), schorlomite, samarskite, tellurides, copper, hexagonal graphite, embolite, aegerite, ozarkite, chlorastrolite, wavellite, peganite, etc. T 71. 100
- 9 Cleveland Rolling Mill Co., Cleveland, Ohio.—Ores. T 60. 100
- 11 Wyoming Historical & Geological Society, Wilkesbarre, Pa.—Fossils from the anthracite coal measures of Wyoming Valley, Pa. T 70. 100
- 12 Cook, Isaac, St. Louis, Mo.—Lead ores from Washington county, Mo. T 68. 100
- 13 Port Henry Iron Ore Co., J. B. Brinsmade, Treasurer, 56 Broadway, New York, N. Y.—Magnetic iron ores, "Twenty-one," puddling, and furnace ore; "Fisher" Bessemer ore. T 71. 100
- 14 Witherbees, Sherman, & Co., Port Henry, Essex County, N. Y.—Old bed puddling and furnace ore, and new bed Bessemer ore. T 71. 100
- 15 Black Band Iron Co., Marietta, O.—Black band, red hematite, and other iron ores. V 63. 100
- 16 Brown & Co., Wayne Iron & Steel Works, Pittsburg, Pa.—Ores. T 62. 100
- 17 Lucy Furnace Co., Pittsburg, Pa.—Iron ores. T 66. 100
- 18 Providence Franklin Society, Providence, R. I.—Minerals and geological specimens from Rhode Island. T 70. 100
- 19 Lombard, Thos. C., New York, N. Y.—Galena from Tudor mine, Hastings county, Ont. T 71. 100
- 20 Hussey & Howe Mining Co., Plattsburg, N. Y.—Blue magnetic iron ore (martite); black magnetic iron ore. T 69. 100
- 21 Alexander, John S., Philadelphia, Pa.—Collection of minerals. P 68. 100
- 22 Passaic Zinc Co., Passaic, N. J.—Zinc ores. T 63. 100
- 23 Magnetite Iron Co., Philadelphia, Pa.—Bessemer ores; minerals from Carter county, Tenn. T 69. 100
- 24 Crab Orchard Iron Co., Philadelphia, Pa.—Magnetic Bessemer iron ores from Crab Orchard, Tenn. T 69. 100
- 25 Herr, Jos. C., Philadelphia, Pa.—Hematite iron ores, manganese, and baryta from French Broad River, Cocke county, Tenn. T 69. 100
- 26 Davis, O. W., jr., Bangor, Maine.—Katahdin ores (limonite). T 69. 100
- 26a Fleming, F. N. & J. S., Goochland C. H., Va.—T 68.
- a Minerals, especially gold ores. 100
- b Mineral waters. 107
- 27 Thomas Iron Co., Hokendauqua, Pa.—Iron ore. T 64. 100
- 28 Lehigh Zinc Co., Bethlehem, Pa.—Zinc ores and minerals from zinc mines. T 64. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

Minerals, Ores.

- 29 Virginia Mineral Bureau, Alexandria, Va.—Collection of minerals of Virginia and West Virginia. X 62. 100
- 30 Stockbridge Iron Co., New Bedford, Mass.—Iron ore from West Stockbridge and Richmond, Mass. T 70. 100
- 31 Dexter & Co., New York, N. Y.—Mica from North Carolina. T 72. 100
- 32 Minong Mining Co., Detroit, Mich.—Native copper, etc. V 67. 100
- 33 Shalter, R. M., Carrick Furnace, Franklin county, Pa.—Iron ore. T 63. 100
- 34 Shelby Iron Co., Shelby Iron Works, Ala.—Iron ores. T 71. 100
- 35 Rockhill Iron & Coal Co., Philadelphia, Pa.—T 72 and Y 56. 100
a Iron ores. 100
b Semi-anthracite coal; coke. 101
- 36 Tecumseh Iron Co., Tecumseh, Ala. Willard Warner, President and Manager; A. E. Buck, Treasurer, Atlanta, Ga.—Pig iron, iron ore, charcoal, limestone. T 70. 100
- 36a Smith, J. C., Chicago, Ill.—Minerals of Jo Daviess county. V 72. 100
- 37 New River Railroad, Mining, & Manufacturing Co. of Virginia, Philadelphia, Pa.—Iron ores and other minerals. T 50. 100
- 37a Cosgriff, A., Tilly Foster Iron Mines, N. Y.—Magnetic iron ore. Y 62. 100
- 37b South & North Alabama Railroad, Montgomery, Ala.—Y 60 and T, 57. 100
a Iron ore and minerals. 100
b Coal and coke. 101
- 38 Lackawanna Iron & Coal Co., Scranton, Pa.—Iron ores. T 63. 100
- 39 Carpenter, Charles, Kelley's Island, Ohio.—Geological rocks. V 63. 100
- 40 Lake Superior Iron Co., Marquette county, Mich.—Iron ore. T 70. 100
- 41 Kentucky Geological Survey.—Collection illustrating the geology and mineral resources of Kentucky. X 65. 100
- 42 Allen, Oliver, Mumford, N. Y.—Petrified wood, leaves, ferns, etc., found on his premises. T 72. 100
- 43 Vesuvius Furnace, Etna Iron Works, Ironton, Ohio.—Iron ore. T 68. 100
- 44 Etna Furnace, Etna Iron Co., Hanging Rock, Ohio.—Iron ore. T 68. 100
- 45 Blanche Furnace, Etna Iron Works, Ironton, Ohio.—Iron ores. T 68. 100
- 46 Hecla Iron & Mining Co., John Campbell, President, Ironton, O.—Iron ores. T 68. 100
- 47 Monitor Furnace Co., Ironton, O.—Iron ores. T 68. 100
- 48 Grant Furnace, W. D. Kelley & Sons, Ironton, O.—Iron ores. T 68. 100
- 49 Center Furnace, W. D. Kelley & Sons, Ironton, O.—Iron ores. T 68. 100
- 49a Pennsylvania Geological Survey (by John B. Pease).—Scientific collection of rocks, minerals, models, and maps illustrating the geology of Pennsylvania. V 70. 100
- 50 Howard Furnace, Charcoal Iron Co., Ironton, O.—Iron ores. T 68. 100
- 50a Benton, Lewis F., Antwerp, N. Y.—Lead ore. T 70. 100
- 51 Buckhora Furnace, Charcoal Iron Co., Ironton, O.—Iron ores. T 68. 100
- 52 Olive Furnace, Campbell, McGugin, & Co., Ironton, O.—Iron ores. T 68. 100
- 53 Lawrence Furnace Co., Ironton, O.—Iron ores. T 68. 100
- 53a Ward, L. B., Niles, O.—V 61 to 63. 100
a Iron ore. 100
b Coal. 101
- 54 Pine Grove Furnace, Means, Kyle, & Co., Hanging Rock, O.—Iron ores. T 68. 100
- 55 Ohio Furnace, Means, Kyle, & Co., Hanging Rock, O.—Iron ores. T 68. 100
- 56 Washington Furnace, Union Iron Co., Portsmouth, O.—Iron ores. T 68. 100
- 56a Chaffin, Staples, & Co., Richmond, Va.—Ores. T 56. 100
- 57 Scioto Furnace, L. C. Robinson & Co., Portsmouth, O.—Iron ores. T 68. 100
- 58 Bloom Furnace, John Paul & Co., Portsmouth, O.—Iron ores. T 68. 100
- 59 Clinton Furnace, W. I. Bell, Wheelersburg, O.—Iron ores. T 68. 100
- 59a Selma & Alabama Railroad, Montgomery, Ala.—Y 60. 100
a Iron ore. 100
b Section of coal-beds. 101
- 60 Buckeye Furnace Co., Jackson, O.—Iron ores. T 68. 100
- 61 Cambria Furnace, D. Lewis & Co., Samsonville, O.—Iron ores. T 68. 100
- 62 Jackson Furnace, L. P. N. Smith's Heirs, Sciotoville, O.—Iron ores. T 68. 100
- 62a Wallis, Jno. G., Fulton, Ark.—Sulphate of antimony and argentiferous galena. N 55. 100
- 63 Jefferson Furnace Co., Oak Hill, O.—Iron ores. T 68. 100
- 64 Orange Furnace, Orange Iron Co., Jackson, O.—Iron ores. T 68. 100
- 65 Star Furnace Co., Jackson, O.—Iron ores. T 68. 100
- 66 Huron Furnace, Huron Iron Co., Jackson, O.—Iron ores. T 68. 100
- 67 Tropic Furnace Co., Jackson, O.—Iron ores. T 68. 100
- 68 Globe Furnace, Globe Iron Co., Jackson, O.—Iron ores. T 68. 100
- 69 Fulton Furnace, Globe Iron Co., Jackson, O.—Iron ores. T 68. 100
- 69a Liking Iron Co., Newark, O.—V 63. 100
a Iron ore. 100
b Coal. 101
c Flux and slag. 103
- 70 Wellston Twin Furnaces, Wellston Coal & Iron Co., Wellston, O.—Iron ores. T 68. 100
- 70a Hannibal & St. Joseph Railroad, Hannibal, Mo.—Minerals, etc. from the line of the road. V 65. 100
- 70b St. Louis & Iron Mountain Railroad, St. Louis, Mo.—Minerals, etc. from the line of the road. T 60. 100
- 71 Lincoln Furnace, I. M. McGhee's Estate, Rud's Mills, O.—Iron ores. T 68. 100
- 72 Richland Furnace Co., Richland P. O., O.—Iron ores. T 68. 100

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 4

Minerals, Ores, Stone.

- 73 Eagle Furnace, L. C. Damarin & Co.,
Rud's Mills, O.—Iron ores. T 68. 100
- 74 Hope Furnace, L. C. Damarin & Co.,
Portsmouth, O.—Iron ores. T 68. 100
- 75 Hamden Furnace, L. C. Damarin &
Co., Portsmouth, O.—Iron ores. T 68. 100
- 75a Marietta, Pittsburg, & Cleveland
Railway, Marietta, O.—Minerals and
ores. V 63. 100
- 76 Vinton Furnace, Bancroft, Rader, &
Co., Vinton Station, O.—Iron ores. 100
- 77 Keystone Furnace Co., Portsmouth,
O.—Iron ores. T 68. 100
- 78 Monroe Furnace, Union Iron Co.,
Portsmouth, O.—Iron ores. T 68. 100
- 79 Latrobe Furnace, Bundy & Cobb,
Berlin Cross Roads, O.—Iron ores. T
68. 100
- 79a Barnes, Lewis, Philadelphia, Pa.—
Manganiferous iron ore, from Warren
county, N. J. T 50. 100
- 80 Logan Furnace Co., Logan county,
O.—Iron ores. T 68. 100
- 81 Union Furnace, Brooks & Hueston,
Haydensville, O.—Iron ores. T 68. 100
- 82 Mount Savage Furnace, Lexington
& Carter county Mining & Manufactur-
ing Co., Lexington, Ky.—Iron ores. T 68.
100
- 83 Buffalo Furnace, Culbertson, Ear-
hart, & Co., Greensburg, Ky.—Iron
ores. T 68. 100
- 84 Hunnewell Furnace, Eastern Ken-
tucky Railway Co., Riverton, Ky.—Iron
ores. T 68. 100
- 85 Pennsylvania Furnace, Eastern Ken-
tucky Railway Co., Riverton, Ky.—Iron
ores. T 68. 100
- 86 Charlotte Furnace Co., Riverton,
Ky.—Iron ores. T 68. 100
- 87 Laurel Furnace, Robt. Scott & Co.,
Riverton, Ky.—Iron ores. T 68. 100
- 88 Gallia Furnace, Norton, Campbell, &
Co., Portsmouth, O.—Iron ores. T 68. 100
- 88a Iowa, State of.—Minerals, ores, etc.
of Iowa. V 59. 100
- 89 Raccoon Furnace, Raccoon Mining
& Manufacturing Co., Riverton, Ky.—
Iron ores. T 68. 100
- 90 Tygart's Valley Mining Co., River-
ton, Ky.—Section of iron ore. T 68. 100
- 90a Chester Iron Co., Chester, N. J.—
Iron ore. T 64. 100
- 91 Bellefonte Furnace, Means, Russell,
& Means, Ashland, Ky.—Iron ores. T
68. 100
- 92 Buena Vista Furnace, Means & Co.,
Ashland, Ky.—Iron ores. T 68. 100
- 93 Trigg Furnace, D. Hillman & Sons,
Empire Iron Works, Ky.—Iron ores. T
68. 100
- 93a Lowe, S. B., Chattanooga, Tenn.—
Ores. X 63. 100
- 94 Center Furnace, D. Hillman & Sons,
Empire Iron Works, Ky.—Iron ores. T
68. 100
- 96 Hanging Rock Iron Region, Iron-
ton, O.—Iron ores. T 68. 100
- 97 Traber & Aubery, Cincinnati, O.—
Iron ores from twenty-five states and ter-
ritories. T 68. 100
- 98 Borden, William W., New Provi-
dence, Ind.—Fossils of Clark county,
Ind., and stone. X 60. 100
- 99 Cooper, Hewitt, & Co., New York,
N. Y. T 66. 100
a Iron ores. 100
b Fuels. 101
- 100 Ohio Coal Co., Marietta, O.—V 63.
a Coal. 100
b Coke. 101
- 101 Rhodes & Co., Cleveland, O.—V 61
to 63.
a Lake Superior iron ores. 100
b Massillon, Ohio, coals. 101
- 102 Poplar Creek Mineral Railroad Co.,
Philadelphia, Pa.—T 69.
a Iron ores, etc., from Anderson county,
Tenn. 100
b Coal from Anderson county, Tenn. 101
- 103 Durham Iron Co., Riegelsville, Pa.—
T 64.
a Ores. 100
b Fuel. 101
- 104 Glendon Iron Co., Easton, Pa.—T
64.
a Iron ores. 100
b Fuel. 101
- 105 Mahoning Valley Centennial Asso-
ciation, Youngstown, O.—V 63.
a Ores. 100
b Coal. 101
c Limestone. 103
- 106 Bye, E. Mortimer, Wilmington,
Del.
a Iron ore. (Titaniferous magnetic.) *Chrome
ore.* (Rock and sand.) 100
b Maryland "verde antique" marble (ser-
pentine), various shades of green, hand-
somerly blended; takes a brilliant polish,
does not fade or weather, and is adapted
for all kinds of ornamental work. T 70.
102
- 107 Northampton Furnace, worked by
the Bethlehem Iron Co., Bethlehem, Pa.—
T 64.
a Iron ores. 100
b Fuel. 101
- 108 Lehigh Iron Co., Allentown, Pa.—
T 64.
a Iron ore. 100
b Coal. 101
- 109 Emaus Iron Co., Allentown, Pa.—
T 64.
a Iron ore. 100
b Fuel. 101
- 111 Allentown Rolling Mill Co., Allen-
town, Pa.—T 64.
a Ores. 100
b Fuel. 101
- 112 Carbon Iron Co., Parryville, Pa.—
T 64.
a Iron ore. 100
b Fuel. 101
- 113 Philadelphia and Reading Coal and
Iron Co., Philadelphia, Pa.—T 72 and Y
56.
a Iron ores. 100
b Coals for smelting and steam purposes. 101
- 114 Grand Tower Mining, Manufac-
turing, and Transportation Co., Grand
Tower, Ill.—T 68. 100
a Ores. 100
b Fuel. 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

115 Ironton Furnace Iron & Steel Co., Ironton, O.—T 68.		129 Crane Iron Co., Catasauqua, Pa. —T 64.	
<i>a</i> Iron ores.	100	<i>a</i> Hematite and magnetic iron ores.	100
<i>b</i> Bituminous coal.	101	<i>b</i> Fuel.	101
116 Belfont Furnace, Belfont Iron Works, Ironton, O.—T 68.		<i>c</i> Limestone.	103
<i>a</i> Iron ores.	100	130a Chattanooga Mineral District, Chattanooga, Tenn.—X 63.	
<i>b</i> Bituminous coals.	101	<i>a</i> Iron and copper ores; gold quartz.	100
117 Ophir Furnace Co., Jackson, O.—T 68.		<i>b</i> Coal.	101
<i>a</i> Iron ores.	100	<i>c</i> Marble.	102
<i>b</i> Jackson county stone coal.	101	131 Lehigh Valley Iron Co., Copley, Pa. —T 64.	
118 Norton Iron Works, Ashland, Ky. —T 68.		<i>a</i> Hematite and magnetic ore.	100
<i>a</i> Iron ores.	100	<i>b</i> Fuel.	101
<i>b</i> Coals and coke.	101	<i>c</i> Limestone.	103
119 Ashland Furnace, Lexington & Big Sandy Railroad Co., Ashland, Ky. —T 68.		132 Ohlton Coal Co., Youngstown, O. —V 63.	
<i>a</i> Iron ores.	100	<i>a</i> Black band ore mixed with coal.	100
<i>b</i> Coals.	101	<i>b</i> Mineral ridge coal.	101
120 Powel, Robert Hare, & Co., 424 Walnut street, Philadelphia, Pa.—X 54.		132a Glasgow & Port Washington Iron & Coal Co., Port Washington, O.—V 61 and W 64.	
<i>a</i> Iron ores.	100	<i>a</i> Ores.	100
<i>b</i> Semi-bituminous and gas coals, from the Powelton estate, Pennsylvania.	101	<i>b</i> Coal.	101
121 Union Iron Co. of Buffalo, Buffalo, N. Y.—T 64 and U 60 <i>outside.</i>		133 Alice Furnace, Etna Iron Works, Hanging Rock, Ohio.—T 68.	
<i>a</i> Iron ores.	100	<i>a</i> Iron ores.	100
<i>b</i> Limestone.	103	<i>b</i> Bituminous coal and coke.	101
122 Woodstock Iron Co., Anniston, Ala.—T 63.		<i>c</i> Limestone.	103
<i>a</i> Iron and manganese ores.	100	133a Coleraine Iron Co., Northampton county, Pa.—T 64.	
<i>b</i> Limestone.	103	<i>a</i> Iron ore.	100
123 Saucon Iron Co., Hellertown, Pa. —T 64.		<i>b</i> Coal.	101
<i>a</i> Hematite and magnetic ore.	100	134 Hanging Rock Iron Region Fur- naces, Charles Campbell, Commissioner, Ironton, O.—T 69.	
<i>b</i> Limestone.	103	<i>a</i> Iron ores.	100
123a Selma, Rome, & Dalton Rail- road (by S. W. Baird), Cincinnati, O.—X 64.		<i>b</i> Cinders, bituminous coals.	101
<i>a</i> Copper and iron ores.	100	<i>c</i> Limestone.	103
<i>b</i> Coal.	101	<i>d</i> Fire clay.	104
<i>c</i> Slate, marble, and limestone.	102	135 Tuscarawas Coal & Iron Co., Clevel- and, O.—T 71.	
<i>d</i> Fire clay.	104	<i>a</i> Iron ores.	100
124 Andrews, Hitchcock, & Co., Clevel- and, O.—V 61 to 64.		<i>b</i> Coal.	101
<i>a</i> Lake Superior iron ores.	100	<i>c</i> Limestone.	103
<i>b</i> Brier Hill coal.	101	<i>d</i> Sand, fire clay.	104
<i>c</i> Limestone.	103	136 Mount Vernon Furnace, Hiram Campbell & Sons, Ironton, O.—T 68.	
125 Duncan, John W., Philadelphia, Pa.—T 72.		<i>a</i> Iron ores.	100
<i>a</i> Iron ores.	100	<i>b</i> Bituminous coals.	101
<i>b</i> Clays.	104	<i>c</i> Limestone.	103
126 Peru Steel & Iron Co., Clinton- ville, N. Y.—T 63.		<i>d</i> Fire clay.	104
<i>a</i> Iron ore.	100	137 Milton Furnace & Coal Co., Wells- ton, O.—T 68.	
<i>b</i> Graphite ore.	105	<i>a</i> Iron ores.	100
127 Thomas, W. H. B., Mount Holly, N. J.—T 68.		<i>b</i> Coals.	101
<i>a</i> Minerals.	100	<i>c</i> Limestone.	103
<i>b</i> Marls for fertilizing purposes; mineral waters from New Jersey.	107	<i>d</i> Fire clay.	104
127a Brooke, E. & G., Birdsboro', Pa. —T 67.		138 Huntingdon & Broad Top Rail- road Co., Philadelphia, Pa.—V 56.	
<i>a</i> Magnetic and hematite iron ores.	100	<i>a</i> Iron ores.	100
<i>b</i> Anthracite coal.	101	<i>b</i> Coal.	101
128 Myers, A. J., Shenandoah Alum Springs, Va.—T 67.		<i>c</i> Limestones.	103
<i>a</i> Minerals, ores.	100	<i>d</i> Fire clays.	104
<i>b</i> Mineral spring waters, chalybeate, iron, and sulphur waters.	107	139 State of Wisconsin.—V 60.	
128a Andover Iron Co., Phillipsburg, N. J.—T 64.		<i>a</i> Minerals, soils, etc.	100
<i>a</i> Iron ores.	100	<i>b</i> Building stone.	102
<i>b</i> Coal.	101	<i>c</i> Sands, gravel.	104
<i>c</i> Limestone and slags.	103	140 State of Ohio (by F. W. Green).—V 61 to 63.	
		<i>a</i> Minerals, ores.	100
		<i>b</i> Stone.	102
		<i>c</i> Clay, etc.	104

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Minerals, Ores, Coal.

- 141 State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—T 70.**
a Iron, zinc, and copper ores; minerals, geological suite. 100
b Building stones. 102
c Clays and sands. 104
d Fertilizers. 107
- 142 State of Indiana (by E. T. Cox, State Geologist).—V 58.**
a Hydrated brown oxide iron ores. 100
b Bituminous and cannel coal from various mines. 101
c Marble of various colors, oolitic building stone, limestone, sandstone, limestone flags, hydraulic stone. 102
d Hydraulic cement, caustic lime. 103
e Fire, white porcelain, and potters' clay; sand. 104
- 143 State of Michigan (Jay A. Hubbell, Houghton, Mich., Superintendent of Mineral Department).—V 67.**
a Minerals, ores, geological collections, etc. 100
b Bituminous and cannel coal. 101
c Hewn, sawed, and polished building stone, marbles, and slates. 102
d Lime and cement. 103
e Clays and silex for glass manufacturers; sandstone, etc. 104
f Mineral waters, natural brines, gypsum, marls, etc. 107
- 144 State of Delaware (by J. P. Conneys, Dover, Del.).—V 55.**
a Iron ore. 100
b Building stone. 102
c Clays. 104
d Natural woods. 600
e Fruits. 610
f Cereals. 620
g Peas, beans, potatoes, turnips. 621
- 145 State of Missouri (collective exhibit, by Thos. Allen, President State Board Centennial Managers, St. Louis, Mo.).—V 65 and T 60.**
a Iron, lead, zinc, copper, and nickel ores, barytes, feldspar, and soils. 100
b Coal. 101
c Stone. 102
d Clays, sand, ochres, and kaolin. 104
e Tripoli. 106
f Peanuts. 605
g Wheat, rye, oats, barley, and corn. 620
h White beans and black-eyed peas. 621
i Millet. 624
j Cotton. 665
k Flax and hemp. 666
l Wool. 667
m Silk. 668
- 146 Cochran, John M., & Co., Bradford, Pa.—Connellsville bituminous coal and coke. T 56.** 101
- 147 Foster Coal Co., Youngstown, O.—Coal. V 63.** 101
- 148 Kittaning Coal Co., 125 South Fourth street, Philadelphia, Pa.—Clearfield bituminous coal, for steam and manufacturing purposes. Y 56 and T 72.** 101
- 149 Westmoreland Coal Co., 230 South Third street, Philadelphia, Pa.—Bituminous coal from the Pittsburg seam, for manufacture of gas and iron, and for locomotive fuel. Y 58.** 101
- 149a Warwick, John G., Massillon, O.—Coal from Warnington mines. V 63.** 101
- 150 Penn Gas Coal Co., Westmoreland county, Pa.—Section of bituminous coal-vein. T 72 and Y 56.** 101
- 150a Sparks, Westwater, & Co., Columbus, O.—Coal from Muskingum county. V 63.** 101
- 151 Van Wickle, Stout, & Co., New York, N. Y.—Anthracite coal from Ebervale, Pa. W 53.** 101
- 152 Kyle Coal Co., Youngstown, O.—Coal. V 63.** 101
- 153 Linderman, G. B., Bethlehem, Pa.—Anthracite coal. T 64.** 101
- 154 Newton, Jotham, New York, N. Y.—Composition fuel made of coal-dust. T 57.** 101
- 155 Union Mining Co., of Allegheny county, Md.—Coal. X 58.** 101
- 155a Stoner, Hitchman, & Co., Mt. Pleasant, Pa.—Coal and coke. X 57.** 100
- 156 Anthracite Fuel Co., Rondout, N. Y.—Pressed anthracite coal. Y 54.** 101
- 156a Hutchinson, A. A., & Bro., Pittsburgh, Pa.—Coke. X 56.** 101
- 157 Hickory Coal Co., Pottsville, Pa.—Samples of coal. W 55.** 101
- 158 Harleigh Coal Co., Philadelphia, Pa.—Samples of coal. W 55.** 101
- 158a Lawton, Burnett, & Co., East Palestine, Ohio.—Bituminous coal, from Columbia county, O. V 61 to 63.** 101
- 158b Draper, John W., Pottsville, Pa.—Anthracite coal. W 56.** 101
- 159 Excelsior Coal Mining Co., Philadelphia, Pa.—Samples of coal. W 55.** 101
- 160 Garretson, Theodore, Philadelphia, Pa.—Coal from the Girard colliery. W 55.** 101
- 161 Wadsworth Coal Co., Akron, O.—Coal from Medina county, O. V 63.** 101
- 162 Blauvelt, Jas. C., Marietta, O.—Bituminous coal from Marietta Run, Ohio. V 61 to 64.** 101
- 162a Hurd Coal & Iron Co., Columbus, O.—Bituminous coal from Perry county, O. V 63.** 101
- 163 Lexington & Carter county Mining & Manufacturing Co., Lexington, Ky.—Section of bituminous coal. T 68.** 101
- 163a Church Hill Coal Co., Youngstown, O.—Coal from Briar Hill. V 63.** 101
- 163b Burton, J. P., Massillon, O.—Coal. V 63.** 101
- 163c Andrews & Hitchcock, Youngstown, O.—Briar Hill block coal. V 61 to 63.** 101
- 163d Huddell & Seitzinger, Philadelphia, Pa.—Anthracite coal from Draper's colliery. W 58.** 101
- 164 Keys, John, Brockwayville, Pa.—Lump of bituminous coal. Y 56.** 101
- 164a Suydam, M. A. & Co., Columbus, O.—Coal from Straitsville Mining Company. V 63.** 101
- 165 Eastern Kentucky Railway, River-ton, Ky.—Sections of cannel and bituminous coals. T 68.** 101
- 165a Hayden, P., Columbus, O.—Coal from Hocking county. V 63.** 101
- 165b Steubenville Coal Company, Steubenville, O.—Bituminous coal. V 63.** 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 37-45

Coal, Stone.

- 165c Pomeroy Coal Company, Pomeroy, O.—Coal. V 63. 102
- 165d Brooks, W. B., & Son, Hocking county, O.—Coal. V 63. 102
- 165e Newark Coal Company, Newark, O.—Canal coal. V 63. 102
- 166 Dysart & Co., Philadelphia, Pa.—Bituminous white ash coal from Cambria county, Pa. Y 57. 102
- 166a Franklin Coal Company, Akron, O.—Coal from Summit county. V 63. 102
- 166b Fitch, E. A., Columbus, O.—Coal from Athens county. V 63. 102
- 166c Howells, Anthony, Massillon, O.—Coal from Pigeon Run. V 63. 102
- 167 Kimes, J. B., & Co., Philadelphia, Pa.—Slate mantels, house decorations, building material. T 50. 102
- 168 Williams Marble & Slate Mantel Co., Philadelphia, Pa.—Marble and marbleized slate mantels, etc. T 48. 102
- 169 Wilson & Miller, Philadelphia, Pa.—Marbleized slate mantels, etc.; plain slate work. T 51. 102
- 171 Hayes, Coulter, & Co., Philadelphia, Pa.—Slate mantels with grates. T 59. 102
- 172 Dougherty, E. D., Philadelphia, Pa.—Blocks of Dougherty marble of Tennessee, rough and polished; pedestals, slabs, etc. The Dougherty marble is used in the U. S. Capitol, Treasury, South Carolina State House, and over one hundred and fifty other buildings, public and private, in all parts of the country. Operated since 1853. Quarry in Doughertyville, Hawkins county, Tenn. T 49. 102
- 172a Peninsula Stone Co., Peninsula, O.—Building stone. V 63. 102
- 173 Columbian Marble Co., Rutland, Vt.—Marble wainscoting, pedestal, tiling, etc. T 54. 102
- 174 Van Gunden, Young, & Drumm, Philadelphia, Pa.—Vermont marble tablets and rustic monument; Italian marble. T 47. 102
- 175 Innis, G. S., Warden of Ohio Penitentiary, Columbus, O.—Limestone from State quarries at Columbus, O. V 61 to 64. 102
- 175a Field, F. K., Philadelphia, Pa.—North River, Pennsylvania, and Virginia blue stone. T 53. 102
- 176 Gurney, H. D., St. Paul, Minn.—Minnesota granite—red, white, and blue. T 50. 102
- 177 Forest City Stone Co., Cleveland, O.—Sawed stone flagging. T 54. 102
- 178 Chase, M. K., Bluehill, Maine.—Car granite pedestal. Nerv. 102
- 179 Martin, H. F., Allentown, Pa.—Slate mantels and blackboards, school desks, etc. T 51. 102
- 180 Chandler, C. H., Brownville, Maine.—Roofing slate. T 51. 102
- 181 Allen, James T., & Co., Philadelphia, Pa.—Serpentine and Marengo marble for interior decoration. T 54. 102
- 182 Fauchere, A. L., & Co., New York, N. Y.—Marble mantels, etc. T 50. 102
- 183 Williams, Chas., St. Louis, Mo.—Tennessee, Italian, and Missouri marble work; jewel box. T 53. 102
- 183a Barker, H., & Bro., Philadelphia, Pa.—Pedestal of Massachusetts granite. (Aster.) 102
- 184 Denton, Drake W., Office, 17 North Front street, Philadelphia, Pa.—Excelsior fire and water-proof slate roofing, and flax waste-composition batting. All orders promptly attended to. T 56. 102
- 185 Tillson, Davis, Rockland, Maine.—Plain, polished, and ornamental granite work. T 51. 102
- 185a Finnigan, M., Cincinnati, O.—Buena Vista stone. V 61 to 63. 102
- 185b Fish, W., & Co., Columbus, O.—Stone from Portsmouth and Black Lick, Ohio. W 63. 102
- 185c Finch, Pruyn, & Co., Glens Falls, N. Y.—Block of marble. T 51. 102
- 186 Maine Slate Co., Skowhegan, Maine.—Roofing slate, dark, rich, lustrous, unfading color, unequaled elasticity, toughness, and strength, wonderful rift and smoothness of surface. T. H. Dinsmore, *Business Manager*. T 53. 102
- 187 Chapman Slate Co., Bethlehem, Pa.—Roofing slate, flagging, stairways, blackboards, posts, door and window sills, mantels. T 64. 102
- 188 Lehigh Slate Co., Slatington, Pa.—Roofing and school slate, mantels, blackboards, bath tubs; bureau, table, and washstand tops. T 64. 102
- 188a Hinsdale, Doyle, & Co., New York, Granite monuments. T 7a. 102
- 188b Fisher & Bird, New York, N. Y.—Marble mantels. T 50. 102
- 188c Howell, C. M., Lancaster, Pa.—Marble monuments. V 60. 102
- 189 Allentown Slate Mantel Co., Allentown, Pa.—Slate mantels. T 51. 102
- 189a Hinton, David, Xenia, O.—Building limestone. V 61 to 64. 102
- 189b Caguire, Frank, Chicago, Ill.—Antique vase of limestone. T 53. 102
- 190 Carpenter & Raymond, Cambridge City, Ind.—Monumental work. T 71. 102
- 191 McDonald, Alexander, Cambridge, Mass.—The Centennial Cascade, a rustic rockwork surmounted by a cross (granite from Glen quarries, Mason, N. H., carved at Cambridge, Mass.), exhibiting fine quality of this granite and its capabilities for carved and polished work. N 56 and T 67. 102
- 191a Bosler, Marcus, Dayton, O.—Limestone. V 61 to 63. 102
- 191b Ballard & Galloway, Finley, O.—V 61 to 63. 102
- 4 Building limestone. 102
- 2 Lime, and water lime rock. 103
- 192 Bodwell Granite Co., Rockland, Maine.—Granite samples. T 7a. 102
- 193 Brinton, Joseph H., Thornbury P. O., Pa.—Serpentine stone from quarries in Chester county, Pa. T 53. 102
- 194 Scorgie, Wight, & Co., Cambridge, Mass.—Polished granite fountain. 102

Stone.

- 195 Struthers, W., & Sons, Philadelphia, Pa.—Mantels, font, group of birds in Caen stone; alto-relief in statuary, marble, sandstone, font, specimens of foreign marbles and native plaster; models for public buildings; specimens of native granites, marbles, and sandstones. T 25. 102
- 196 Pennsylvania Marble Co., Philadelphia, Pa.—Black marble mantel, book, and tiles. T 51. 102
- 197 Brown, E. F., Commandant Soldiers' Home, Dayton, O.—Stone from quarries on grounds of National Soldiers' Home. V 61 to 63. 102
- 197a Barker, Henry, & Sons, Quincy, Mass.—Quincy granite pedestal. (Nave.) 102
- 198 Rutland Marble Co., West Rutland, Vt.—Wrought and unwrought marble. T 59. 102
- 199 Maine Red Granite Co., Red Beach, Maine (G. G. McGlashan, superintendent).—Specimen block of red granite from top sheet of quarry. T 55. 102
- 199a Graves Brothers, Birmingham, O.—V 63. 102
a Building stone. 102
b Grindstones. 106
- 200 Columbia Slate Co., Slatington, Pa.—Manufactured Washington vein roofing slate. T 54. 102
- 201 Martin, F. O., St. George, Maine.—Block of dressed granite. T 64. 102
- 202 Wells, Chas. B., Marietta, O.—Sandstone for building purposes. T 64. 102
- 203 St. Johnsbury Granite Co., St. Johnsbury, Vt.—Granite monument and tablet.—T 56. 102
- 204 Merrill, Adams H., Williamsburgh, Maine.—Roofing slate. T 50. 102
- 207 Clemons, C. H., Sandusky, O.—Limestone. V 61 to 63. 102
- 208 Concord Granite Co., Quincy, Mass.—Granite pedestal. N 48. 102
- 209 Sheldons & Sisson, West Rutland, Vt.—Pedestal of statuary and blue mottled marble. V 54. 102
- 210 Davis, I. J., Newark, O.—White and red sandstone. V 61 to 63. 102
- 211 McNally, William G., Cleveland, O.—Coat-of-arms of Ohio, carved from Berea stone. (*Ohio State Building.*) 102
- 211a Portland Brown Stone Quarries, Portland, Conn.—Stoops and doorways of Connecticut brown stone. (*Outside.*) 102
- 211b King, T. H., Trumansburg, N. Y.—Flag stones. (*Outside.*) 102
- 211c Stotler, D. C., Piqua, O.—Building limestone. V 61 to 64. 102
- 211d Strom & De Planque, New York, N. Y.—Marble table top and mantelpiece. T 51. 102
- 211e Fase, Lewis, Covington, O.—V 61 to 64. 102
a Building limestone. 102
b Lime. 103
- 211f North Pittsford Marble Company, Pittsford, Vt.—Marble monuments, pedestal, and design case. T 56. 102
- 211f Paul, John, & Co., Massillon, O.—Stone for building and glass manufacturing. V 61 to 63. 102
- 211g Myers, Uhl, & Co., Cleveland, O.—Marble mantel and grate. (*Ohio State Building.*) 102
- 212 Thompson, Wm. S., Springfield, Ohio.—V 63. 102
a Stone. 102
b Lime. 103
- 212a Traber, Jacob, Cincinnati, O.—Limestone. V 61 to 64. 102
- 212b Mueller, John M., Cincinnati, O.—Buena Vista stone. V 61 to 63. 102
- 212c Richey, Morris S., Waverly, O.—Building stone. V 61 to 64. 102
- 212d Singer & Talcott Stone Company, Chicago, Ill.—Illinois limestone dressed by machinery. (*At spring S. E. of Horticultural Hall.*) 102
- 212e St. Johnsbury Granite Company, St. Johnsbury, Vt.—Granite monument and tablet. T 57. 102
- 212f Richmond Marble Company, of Vermont, Philadelphia, Pa.—White marble pedestal. T 57. 102
- 213 Amherst Stone Co., Cleveland, O.—V 63. 102
a Blocks of sandstone. 102
b Grindstones. 106
- 214 Warthorst & Co., Massillon, O.—V 63 and T 61. 102
a Blocks of sandstone. 102
b Grindstones. 106
- 214a Berea Stone Company, Berea, O.—V 63. 102
a Building stone and flagging. 102
b Grindstones, and scythe stones. 106
- 215 Philadelphia & Reading Railroad Co., Philadelphia, Pa.—T 72 and Y 56. 102
a Building stone. 102
b Limestone. 103
- 216 Worthington & Sons, North Amherst, Ohio.—T 56 and V 63. 102
a Amherst building stone. 102
b Grindstones, etc., from quarries at Amherst and Lake Huron, Mich. 106
- 216a Burlington Manufacturing Co., Burlington, Vt.—Marble tiling.—T 56. 102
- 217 Williams, R. L., Middle Granville, N. Y.—T 51. 102
a Vermont and New York roofing slate. 102
b Car coupler. 576

COLLECTIVE EXHIBIT OF BUILDING STONES USED IN THE OHIO STATE BUILDING. 102

- 218 Hoffman, A. O., Thompson, Wm., and others, Springfield, O.
- 219 Berea Stone Co., Berea, O.
- 220 Hurst, I. R., Cleveland, O.
- 221 Ford, O. D., Cleveland, O.
- 222 Halderman, L., & Son, Cleveland, O.
- 223 Wagner, John, Cleveland, O.
- 224 Amherst Stone Co., Cleveland, O.
- 225 Black River Stone Co., Cleveland, O.
- 226 Paul, John, & Co., Massillon, O.
- 227 Wilson & Hughes Stone Co., Cleveland, O.
- 228 Clough Stone Co., Amherst, O.
- 229 Worthington & Sons, Amherst, O.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

Minerals, Stone.

- 230 Ohio Stone Co., Cleveland, O.
 231 McDermott, J., & Co., Cleveland, O.
 232 Coshocton Stone Co., Coshocton, O.
 233 Stitt, Price, & Co., Columbus, O.
 234 Finnegan, M., Cincinnati, O.
 235 Finnegan, J. H., Cincinnati, O.
 236 Montgomery, R. M., Youngstown, O.
 237 Caldwell & Tod, Youngstown, O.
 238 Byers & McIlhainy, Youngstown, O.
 239 Mauser & Haid, Youngstown, O.
 240 Hamilton, Homer, Youngstown, O.
 241 Warthorst & Co., Massillon, O.
 242 Stocking, Z. S., Mansfield, O.
 243 Bosler, Marcus, Dayton, O.
 244 Huffman, William, Dayton, O.
 245 Tremain, Chas., Manlius, N. Y.—Cement and land plaster. V 72. 103
 246 Ervin, D. S., Cedarville, Ohio.—Limestone. V 61 to 64. 103
 246^b Howes Cave Association, Howes Cave, N. Y.—Hydraulic cement and lime, ground plaster, and rock strata. Y 55. 103
 247 Fireproof Building Co., New York, N. Y.—Teil concrete hollow blocks, hollow bricks, and beton blocks. T 55. 103
 247^a Michael, F. M., and others, Eaton, Ohio.—Limestone and lime. V 61 to 63. 103
 247^b Sintz, George, Springfield, O.—Limestone and lime. V 61 to 64. 103
 248 Mitchell, Wilson, Philadelphia, Pa.—Portland artificial stone building blocks, partitions, floors, colored paving tiles, etc. T 53. 103
 248^a Richardson, Geo., Milwaukee, Wis.—Artificial stone, with moulds and apparatus for hardening. X 57. 103
 250 Wampum Cement & Lime Co., limited, New Castle, Pa.—Portland cement, and samples in artificial stone of various designs. T 57. 103
 251 Coplay Cement Co., Allentown, Pa.—Cements, building blocks, pipe, ornaments, etc. T 56. 103
 252 Allen Cement Co., Siegfried's Bridge, Pa.—Crude and manufactured cement. T 57. 103
 253 Cedar Hollow Lime Co., Philadelphia, Pa.—Lime, lime rock, model of furnace, and model of receptacle for storing and preserving lime. T 58. 103
 255 Abbott Pavement Co., Brooklyn, N. Y.—Pavement. The Abbott Pavement is a bituminous concrete that has been used for six years past on many miles of roadways in Brooklyn, and for four or five years in Washington. It costs less than the asphalt pavement of Paris; in this country only about one-half. It costs less than one-half for repairs, and it is not nearly so slippery, while in all the other qualities, of smoothness, quietness, cleanliness, comfort to those driving on it, economy of horseflesh and vehicles, it is admirable. Under patents held by the Abbott Pavement Company, old stone, macadam, and wood pavements can be utilized as a foundation, and millions of dollars' worth of wood pavements, now going rapidly to decay, can be saved, as demonstrated on many miles that have been covered in the city of Brooklyn T 70. 103
 256 Union Stone Co., Boston, Mass.—T 50.
 a Articles in artificial stone, soapstone register borders, millstone cement, etc. 103
 b Emery wheels. 106
 256^a Shields, King & Co., Newark Star Glass Works, Newark, Ohio.—Sands, etc., for making glass. V 61 to 63. 104
 257 Hampton, Cutter, & Sons, Woodbridge, N. J.—Clays, kaolin, sand. T 55. 104
 258 Such, George, South Amboy, N. J.—Samples of clay. T 58. 104
 259 Sarchet, J. W. & J. T., Glen Loch Post Office, Pa.—T 57.
 a Moulding sand and kaolin. 104
 b Flint. 106
 260 Kier Brothers, Pittsburg, Pa.—Fire clay. Y 56. 104
 261 Bradford, H., Philadelphia, Pa.—Maryland quartz. T 54. 104
 261^a Tucker, George, New York, N. Y.—Tripoli and polishing rouge. N 68. 106
 262 Schreiber, W. A. H., Phoenixville, Pa.—Clay, kaolin, flint, spar, and sand; potters' and decorators' materials. T 69. 104
 263 Toll, Charles, Monroe, Mich.—Washed and crude silex. V 67. 104
 264 Zihlmann, Joseph, Bellaire, O.—Wooden mould for shaping blown glass. T 64. 104
 265 Dover Fire Brick Co., Canal Dover, Ohio.—Fire clay. T 63. 104
 266 Kreischer, B., & Son, Philadelphia, Pa.—Fire clay, etc. X 56. 104
 267 American Kaolin Co.; Works, New Garden, Chester county, Pa.; office, 333 South Third street, Philadelphia, Pa.—Kaolin, china, fire clay, and fire sand. X 58. 104
 268 Dixon Crucible Co., Jersey City, N. J.—Crude and refined graphite. P 72. 105
 269 Strow, Wile, & Co., Philadelphia, Pa.—Black lead crucibles, retorts, covers, etc.; plumbago, crude and prepared; lumber pencils, stove polish. T 59. 105
 270 Taylor, Robert, & Co., Philadelphia, Pa.—Black lead crucibles. T 58. 105
 271 Morse Bros., Canton, Mass.—Stove polish, lumber pencils, plumbago. The "Rising Sun Stove Polish," noted for beauty of polish, saving of labor, durability, freedom from dust and odor, when heated. This preparation is an excellent article. The Rising Sun Lumber Pencils, and samples of plumbago, from which they are manufactured. T 56. 105
 273 Jersey City Crucible Manufacturing Co., Jersey City, N. J.—Crucibles and stove polish. T 58. 105
 274 Phoenix Manufacturing Co., Taunton, Mass.—Crucibles and stove polish. T 58. 105
 275 Webb, Robert, Boston, Mass.—Stove polish; crude and prepared plumbago. T 60. 105

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 4

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D. M. BOYD, Jr.,
Gen. Passenger Agent.

Minerals, Mineral Water, Metallurgical Products.

- 276 Nibbinger, Edward, Philadelphia, Pa.—Quartz paste for sharpening razors and knives. T 53. 106
- 277 Hand, James C., & Co., Philadelphia, Pa.—Corundum manufactured by the Pennsylvania Corundum Co. T 57. 106
- 278 Washington Mills Emery Manufacturing Co., Ashland, Mass.—Emery. T 57. 106
- 279 Boyd & Chase, New York, N. Y.—Arkansas and Washita oilstone. N 68. 106
- 284 U. S. Soapstone Manufacturing Co., Cincinnati, O.—Steatite. P 77. 106
- 285 Patten, F. H., Bath, Maine.—Feldspar and quartz, for potteries and sand paper factories. T 70. 106
- 286 Lehigh Whetstone Co., Allentown, Pa.—Whetstones from Lenigh mountain, near Allentown, Pa. T 57. 106
- 288 Coffin, Redington, & Co., New York, N. Y.—Electro selean, a polishing powder for all fine metals, and infusorial silica from Nevada, from which the above is made.
- | | |
|-----------|-------|
| Analysis: | |
| Silica, | 83.5 |
| Alumina, | 2.7 |
| Water, | 13.5 |
| Loss, | .3 |
| | —100. |
- T 72. 106
- 289 Louis, Julius, & Bro., Jeffersonville, Ind.—Hot Springs, Arkansas, and other oilstones. N 68. 106
- 290 Sibley, Freeman K., Waltham, Mass.—The prize medal emery and crocus cloth. (Only medals ever awarded in the world.) T 53. 106
- 291 Schultz, Carl H., New York, N. Y.—Carbonic acid and mineral spring waters, siphons, glass fountains, etc. T 58. 107
- 291^a Jarves & Hooper, Detroit, Mich. T 53. 107
- ^a Fertilizers and animal charcoal. 107
- ^b Glue and neat's-foot oil. 652
- 292 Knight & Widden, Portland Plaster Mills, Portland, Maine.—Calced and ground land plaster. T 59. 107
- 293 Champion Spouting Spring, Saratoga Springs, N. Y.—Saratoga water. T 58. 107
- 294 Marsh & Co., Sandusky, O.—Gypsum. V 61 to 63. 107
- 295 Gettysburg Katalysine Co., Gettysburg, Pa.—Katalysine spring water. T 57. 107
- 296 Navassa Phosphate Co., Baltimore, Md.—Crude and ground phosphates, from Navassa Island, West Indies; and other fertilizing materials. T 57. 107
- 297 Charleston, S. C., Mining & Manufacturing Co., Philadelphia, Pa.—Goodrich phosphatic nodules, mined from Agassiz's Ashley fish basin, Lamb's landing, S. C. T 58. 107
- 298 Bolen & Byrne, New York, N. Y.—Artificial mineral waters, granular effervescent salts, siphons, etc. T 60. 107
- 299 Lippincott, Chas., & Co., Philadelphia, Pa.—Apparatus for dispensing aerated water. B 38. (*Navs and Transpts.*) 107

- 300 Lawrence, A. R., & Co., Excelsior Park, Saratoga Springs, N. Y.—Excelsior and Union Spring Saratoga waters, and apparatus for having them on draught in their natural condition. T 70. 107
- 300^a Tufts, Jas. W., Boston, Mass.—Soda water fountains. (*Navs and Transpts.*) 107

Metallurgical Products.

- 301 Hastings & Co., Philadelphia, Pa.—Gold leaf, foil, and bronze; silver leaf, bronze powder, etc. P 47. 110
- 302 Wallis, Jno. G., Fulton, Ark.—Base bullion. N 55. 110
- 303 Cambria Iron & Steel Co., Johnstown, Pa.—Iron—pig, bloom, and muck bar, rail piles and rails; steel—Bessemer pig, and spiegeleisen, ingots, blooms, and rails. T 65. 111
- 303^a Huntingdon & Broad Top Railroad Co., Philadelphia, Pa.—Pig iron. Y 56. 111
- 304 Wood, W. D., & Co., McKeesport Iron Works, Pittsburg, Pa.—Patent planished sheet iron. T 61. 111
- 305 Park Bro. & Co., Black Diamond Steel Works, Pittsburg, Pa.—Cast steel; samples of homogeneous crucible cast steel, boiler plate, and flangings. T 62. 111
- 305^a Mahoning Valley Centennial Association, Youngstown, Ohio.—Pig and manufactured iron. V 63. 111
- 306 Rowland, James, & Co., Kensington Iron and Steel Works, Philadelphia, Pa.—Anvil brand, refined bar, band, skelp, hoop, and nut iron; plow, cultivator, and shovel steel. T 64. 111
- 307 Wood, Alan, & Co., 519 Arch street, Philadelphia, Pa.—Manufacturers of patent planished, galvanized, and common, and charcoal bloom, sheet, and plate iron. T 61. 111
- 307^a Andover Iron Co., Phillipsburg, N. J.—Pig and spiegeleisen iron. T 64. 111
- 308 Straus, J. E., & Co., Philadelphia, Pa.—Hoop iron. P 71. 111
- 309 Miller, Metcalf, & Parkins, Crescent Steel Works, Pittsburg, Pa.—Crucible steel and articles manufactured therefrom. T 60. 112
- 309^a Glasgow & Port Washington Iron and Steel Co., Port Washington, O.—Pig iron. W 63. 111
- 310 Hussey, Wells, & Co., Pittsburg, Pa.—Crucible cast steel bars, sheets, homogeneous boiler plates, railway axles, forgings, edge tools, rake teeth. T 68. 111
- 311 Phillips, Nimick, & Co., Sligo Iron Mills, Pittsburg, Pa.—Iron. The only manufacturers of "sligo" fire box, boiler plate, sheet and bar iron, and "Tyrone" plate, tank, sheet, and bar iron. Slates rolled one hundred inches wide. T 67. 111
- 312 Union Iron Co. of Buffalo, Buffalo, N. Y.—Solid wrought iron rolled beams. T 64 and U 60. 111
- 321^a State of Indiana (by E. T. Cox, State Geologist).—Pig, bar, and railroad iron; cut nails. V 57. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Metallurgical Products.

- 313** Otis Iron & Steel Co., Cleveland, O.—Ingots, bars, plates, and forgings of Siemen's Martin steel. T 65. 111
- 314** Cleveland Rolling Mill Co., Cleveland, O.—Pig metals, rails, bars, etc., of iron and Bessemer or Siemen's Martin steel. T 60. 111
- 315** South & North Alabama Railroad, Montgomery, Ala.—Iron. Y 60 and T 57. 111
- 316** State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—T 70.
a Iron, steel, spiegeleisen. 111
b Spelter, sheet zinc, zinc white. 113
- 317** Peru Steel & Iron Co., Clintonville, N. Y.—Loops, blooms, billets, bars, and steel. T 63. 111
- 317a** Silicon Steel Co., New York, N. Y.—Silicon steel, rails, etc.; steelified iron. T 63. 111
- 318** Washburn & Moen Manufacturing Co., Worcester, Mass.—Iron wire rods; iron and steel wire. T 63. 111
- 318a** Valentines & Co., Bellefonte Iron Works, New York, N. Y.—Cold blast charcoal iron. T 61. 111
- 318b** Youngstown Rolling Mill Co., Youngstown, Ohio.—Horse shoe, bar, hoop, and band iron, steel mixed with iron. V 61 to 64. 111
- 318c** Wick, Ridgway, & Co., Youngstown, Ohio.—Railroad iron, of all sizes. V 61 to 64. 111
- 318d** Brown, Bonnett, & Co., Youngstown, Ohio.—Pig, bar, and sheet iron. V 61 to 64. 111
- 318e** Eyhon & Lloyd, Philadelphia, Pa.—Roughing rolls, hand rounds, and squares. T 65. 111
- 319** American Sheet & Boiler-plate Co., Cleveland, Ohio.—Plate, sheet, corrugated, galvanized, metallic tile, universal plate and agricultural iron, Bessemer or Siemen's Martin steel. T 59. 111
- 320** Cooper, Hewitt, & Co., New York, N. Y.—Iron fluxes, blooms, pigs, rods, bars, rails, beams; chain, wire, horseshoe, and Martin steel. T 66. 111
- 321** Hanging Rock Iron Region Furnaces (Chas. Campbell, Commissioner), Ironton, Ohio.—Pig iron, with articles manufactured therefrom. T 69. 111
- 322** Beale, Horace A., Parkersburg, Pa.—Charcoal and puddled iron for boiler tubes and plates, muck bar of superior quality, and hollow bottom plates for puddling furnace. T 66. 111
- 323** Clark, Wm., & Co., Pittsburg, Pa.—Hoop, band, and scroll iron. T 66. 111
- 324** Reese, Graff, & Woods, Pittsburg, Pa.—Wrought iron of all descriptions; cast and special steel; tool steel, spring steel, plow steel, machinery and agricultural steel, fire steel, steel hoop, steel cotton ties, horse and mule shoes, steel toe calks, steel boiler-plate. T 66. 111
- 325** Andrews, Brothers, Youngstown, O.—Bessemer, foundry, and mill pig iron. V 61 to 64. 111
- 326** McCullough Iron Co., Philadelphia, Pa.—Bloom and refined cleaned sheet iron; charcoal blooms. Manufacturers of "Galvanized," "Best Bloom," "Best Refined," "Harvey's cleaned Sheet Iron," cleaned iron for stamping purposes, leaded roofing plates, corrugated iron, black and galvanized. P 70. 111
- 327** Moorhead & Co., Soho Iron Mills, Pittsburg, Pa.—Galvanized and black sheet iron; roofing and ceiling irons. T 66. 111
- 328** Henderson, James, Hamburg, Pa.—Wrought iron made by the Henderson process. T 59. 111
- 329** Brown & Co., Wayne Iron & Steel Works, Pittsburg, Pa.—Cold-blast charcoal metal, blooms, boiler plate, bars; agricultural irons. T 62. 111
- 331** Edgar Thomson Steel Co. (limited), Pittsburg, Pa.—Bessemer steel rails, billets, blooms, and ingots. T 66. 111
- 333** Lucy Furnace Co., Pittsburg, Pa.—Pig metal, etc. T 66. 111
- 334** Carnegie Bros. & Co., Pittsburg, Pa.—Wrought iron beams, channels, bridge iron, etc. T 66. 111
- 335** Wilson, Walker, & Co., Pittsburg, Pa.—Railroad car forgings. T 66. 111
- 336** Keystone Bridge Co., Pittsburg, Pa.—Raritan Bay pivot bridge, weldless chord bars, wrought iron, tubular sectional columns. T 66. 111
- 337** United States Corrugated Elbow Co., Cincinnati, Ohio.—Stovepipe elbow machine; stovepipe elbows. T 61. 111
- 338** Gregory & Co., Jersey City, N. J.—American cast steel. T 59. 111
- 339** Duncan, John W., Philadelphia, Pa.—Pig metal. T 72. 111
- 340** Tuscarawas Coal & Iron Co., Cleveland, Ohio.—Pig iron. T 71 and V 63. 111
- 341** Rhodes & Co., Cleveland, Ohio.—Bessemer car-wheel and malleable charcoal irons. T 71 and V 63. 111
- 342** Woodstock Iron Co., Anniston, Ala.—Hot-blast, cold-blast, and spiegeleisen iron, charcoal. T 63. 111
- 343** Middleton, C. W. & H. W., Philadelphia, Pa.—Collective exhibit of Fort Pitt Iron & Steel Works, Soho Iron Mills, Solar Hoop Iron Mills, Philadelphia Iron & Steel Co., Parkersburg Iron Works, Corydon Winch, Van Alen & Co., Cumberland Tube Works, Danville Iron Co. and Star Chain and Nail Works—iron and steel. T 65 to 66. 111
- 344** Crane Iron Co., Catsasauqua, Pa.—Foundry and forge pig iron; cinder. T 64. 111
- 345** Alexander, John S., Philadelphia, Pa.—Bayonet spade. P 68. 111
- 346** Singer, Nimick, & Co., Pittsburg, Pa.—Saw, tool, plow, machinery, safe, and boiler steel; steel railway axles and springs. T 69. 111
- 346a** Selma & Alabama Railroad, Montgomery, Ala.—Iron. Y 63. 111
- 347** Magnetite Iron Co., Philadelphia, Pa.—Bessemer ore products. T 69. 111
- 348** Crab Orchard Iron Co., Philadelphia, Pa.—Samples of iron and steel. T 69. 111

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 4

Metallurgical Products.

- 348^a Chester Iron Co., Chester, N. J.—Iron ore. T 64. 111
- 349 Danville Iron Co., Danville, Pa.—Railroad iron. T 66. 111
- 350 Winch, Corydon, Philadelphia, Pa.—Wrought iron spikes. T 66. 111
- 351 Philadelphia Iron & Steel Co., Philadelphia, Pa.—Special shapes and manufactures of iron. T 66. 111
- 351^a Ward, L. B., Niles, O.—Common boiled iron. V 61 to 63. 111
- 352 Cumberland Nail & Iron Co., Bridgeton, N. J.—Wrought iron pipe. T 66. 111
- 353 Davis, O. W., jr., Bangor, Me.—Charcoal pig iron, fluxes, cinders; articles made in part from Katahdin iron. T 69. 111
- 354 Durham Iron Co., Riegelsville, Pa.—Flux, pig iron, and cinders. T 64. 111
- 355 Glendon Iron Co., Easton, Pa.—Flux, slag, and pig iron. T 64. 111
- 356 Selma, Rome, & Dalton Railroad, by S. W. Baird, Cincinnati, O.—Charcoal pig iron, slag and charcoal, spiegel, car wheels. X 64. 111
- 359 Northampton Furnace, worked by the Bethlehem Iron Co., Bethlehem, Pa.—Pig iron, flux, slags. T 64. 111
- 360 Lehigh Iron Co., Allentown, Pa.—Flux, slag, and pig iron. T 64. 111
- 361 Bethlehem Iron Co., Bethlehem, Pa.—Charges and products of iron, Bessemer, and spiegeleisen furnaces; products from Bessemer steel mill. T 64. 111
- 362 Emaus Iron Co., Allentown, Pa.—Flux, slag, and iron. T 64. 111
- 363 Coleraine Iron Co., Northampton county, Pa.—Pig iron. T 64. 111
- 364 Thomas Iron Co., Hokendauqua, Pa.—Iron and flux. T 64. 111
- 365 Allentown Rolling Mill Co., Allentown, Pa.—Flux, iron, and slag, flat-plate bolts, nuts, spikes, rivets, etc. T 64. 111
- 366 Allentown Iron Co., Allentown, Pa.—Pig iron. T 64. 111
- 367 Lehigh Valley Iron Co., Copley, Pa.—Pig iron, cinders. T 64. 111
- 368 Carbon Iron Co., Parryville, Pa.—Flux, slag, and pig iron. T 64. 111
- 369 Saucon Iron Co., Hellertown, Pa.—Pig iron. T 64. 111
- 370 Catasauqua Iron Co., Catasauqua, Pa.—Rolled iron and steel, iron and steel bars bent hot and cold and fractured. T 64. 111
- 371 Lehigh Zinc Co., Bethlehem, Pa.—Metallic and sheet zinc, zinc oxide. T 64. 111
- 372 Stewart & Co., South Easton, Pa.—Round, square, and triangular iron wire. T 64. 111
- 373 Gough, Edward, Allentown, Pa.—Turned rolls. T 65. 111
- 374 Bay State Iron Co., Boston, Mass.—Homogeneous iron boiler plates and iron. T 64. 111
- 375 Co-operative Iron & Steel Works, Danville, Pa.—T and street passenger railroad iron. T 63. 111
- 376 Shalter, R. M., Carrick Furnace, Franklin county, Pa.—Cold-blast pig iron. T 63. 111
- 377 Philadelphia & Reading Railroad Co., Philadelphia, Pa.—Rails. T 72. 111
- 378 Mintzer, S. J. W., Philadelphia, Pa.—Silicon steel. T 63. 111
- 379 Shelby Iron Co., Shelby Iron Works, Ala.—Charcoal pig iron, chilled castings, wire rods, cotton ties. T 71. 111
- 380 Chrome Steel Co., Brooklyn, N. Y.—Chrome steel, with samples showing torsional, tensile, and compressive strength; welded chrome steel and iron; ingredients of manufacture. T 64. 111
- 381 Cartwright, McCurdy, & Co., Youngstown, O.—Hoop, band, and horse-shoe iron and steel. V 63 and T 64. 111
- 382 Burton, J. P., Massillon, O.—Iron from Massillon Furnace. V 63. 111
- 383 Rockhill Iron & Coal Co., Philadelphia, Pa.—Pig iron. T 72. 111
- 384 Tecumseh Iron Co., Tecumseh, Ala.—Charcoal pig iron, limestone, charcoal. T 70. 111
- 385 Albany & Rensselaer Iron & Steel Co., Troy, N. Y.—Bessemer steel and iron rails, plates, merchant bars, axles, horseshoes, etc. T 68. 111
- 386 Nes, Charles M., York, Pa.—Silicon steel; steel and steel capped rails. T 63. 111
- 388 Grand Tower Mining, Manufacturing, & Transportation Co., Grand Tower, Ill.—Iron ore products; cokes. T 68. 111
- 389 Globe Rolling Mill Co., Cincinnati, O.—Specialties, Globe Bessemer steel and Globe refined iron. Iron, T 63. 111
- 390 Lackawanna Iron & Coal Co., Scranton, Pa.—Steel and iron railroad bars. T 63. 111
- 391 Passaic Rolling Mill Co., Paterson, N. J.—Rolled iron, rivets, nuts. T 64. 111
- 392 Cox, Justice, jr., & Co., Philadelphia, Pa.—Pig, bar, sheet, tank, pipe, and angle iron; spikes, railway car axles. T 70. 111
- 394 Rogers, J. & J., Iron Co., Ausable Forks, N. Y.—Round and square iron and charcoal billets for steel, from Palmer ore. T 62. 111
- 395 Vesuvius Furnace, Etna Iron Works, Ironton, Ohio.—Pig iron, cold blast charcoal car-wheel iron. T 68. 111
- 396 Etna Furnace, Etna Iron Co., Hanging Rock, O.—Pig iron, cold-blast charcoal car-wheel iron. T 68. 111
- 397 Alice Furnace, Etna Iron Works, Hanging Rock, O.—Pig iron, "Whitwell ovens," and Ferry process. T 68. 111
- 397^a Briar Hill Iron & Coal Company, Youngstown, O.—Pig iron of various grades. V 61 to 64. 111
- 398 Blanche Furnace, Etna Iron Works, Ironton, Ohio.—Pig irons, Whitwell hot blast and Ferry process. T 68. 111
- 399 Hecla Iron & Mining Co. (John Campbell, President), Ironton, O.—Pig iron, cold blast charcoal car-wheel irons. T 68. 111
- 399^a Struthers Iron Co., Youngstown, O.—Bessemer, foundry, and gray forge pig iron. V 61 to 63. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products.

- 400 Monitor Furnace Co., Ironton, O.—Pig iron, cold blast charcoal car-wheel iron. T 68. 111
- 401 Mount Vernon Furnace, Hiram Campbell & Sons, Ironton, O.—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 401a Brooke, E. & G., Birdsboro', Pa.—Keystone pig iron. T 67. 111
- 402 Grant Furnace, W. D. Kelly & Sons, Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 403 Center Furnace, W. D. Kelly & Sons, Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 404 Howard Furnace Charcoal Iron Co., Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 405 Buckhora Furnace, Charcoal Iron Co., Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 406 Olive Furnace, Campbell, McGugin, & Co., Ironton, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 407 Lawrence Furnace Co., Ironton, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 408 Pine Grove Furnace, Means, Kyle, & Co., Hanging Rock, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 409 Ohio Furnace, Means, Kyle, & Co., Hanging Rock, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 410 Ironton Furnace Iron and Steel Co., Ironton, O.—Pig iron, Player hot blast. T 68. 111
- 411 Belfont Iron Works, Ironton, O.—Pig iron, Player hot blast. T 68. 111
- 412 Washington Furnace, Union Iron Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 413 Scioto Furnace, L. C. Robinson & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 414 Bloom Furnace, John Paul & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 415 Clinton Furnace, W. I. Bell, Wheelersburg, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 416 Buckeye Furnace Co., Jackson, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 417 Cambria Furnace, D. Lewis & Co., Samsonville, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 418 Jackson Furnace, L. P. N. Smith's heirs, Sciotoville, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 419 Jefferson Furnace Co., Oak Hill, O.—Pig iron; cold blast charcoal car-wheel and machinery iron. T 68. 111
- 420 Orange Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 421 Star Furnace Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 422 Huron Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 423 Tropic Furnace Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 424 Globe Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 425 Fulton Furnace, Globe Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 426 Ophir Furnace Co., Jackson, O.—Hot blast pig iron. T 68. 111
- 427 Milton Furnace & Coal Co., Wellston, O.—Pig iron, Jackson county softener iron. T 68. 111
- 428 Wellston Coal & Iron Co., Wellston, O.—Pig iron, Jackson county stone coal iron. T 68. 111
- 429 Lincoln Furnace, I. M. McGhee's estate, Rud's Mills, O.—Pig iron, cold blast charcoal iron. T 68. 111
- 430 Eagle Furnace, L. C. Damarin & Co., Rud's Mills, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 431 Richland Furnace Co., Richland P. O., O.—Pig iron, hot blast charcoal iron. T 68. 111
- 432 Hope Furnace, L. C. Damarin & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 433 Hamden Furnace, L. C. Damarin & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 434 Vinton Furnace, Bancroft, Rader, & Co., Vinton Station, O.—Pig iron, hot blast bituminous coal and coke irons. T 68. 111
- 435 Keystone Furnace Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 436 Monroe Furnace, Union Iron Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 437 Latrobe Furnace, Bundy & Cobb, Berlin Cross-roads, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 438 Logan Furnace Co., Logan county, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 439 Union Furnace, Brooks & Hueston, Haydensville, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 440 Pascal Iron Works, Philadelphia, Pa.—Cast iron work for Main Exhibition Building. 111
- 441 Lewis, Oliver, & Phillips, Pittsburgh, Pa.—Iron in merchant bars and odd shapes. T 64. 111
- 442 Roberts, Henry, Newark, N. J.—Iron, Bessemer steel, and cast steel wire. N 69. 111
- 443 Andrews, Hitchcock, & Co., Cleveland, O.—Merchant bar and sheet iron. V 61 to 64. 111
- 444 Mount Savage Furnace, Lexington & Carter county Mining & Manufacturing Co., Lexington, Ky.—Pig iron, hot blast charcoal iron. T 68. 111
- 444a Himrod Furnace Co., Youngstown, O.—Bessemer, foundry, and large pig iron. V 61 to 64. 111

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Metallurgical Products.

- 445 Buffalo Furnace, Culbertson, Earhart, & Co., Greensburg, Ky.**—Pig iron, hot and cold blast charcoal iron. T 68. 111
- 445a Andrews & Hitchcock, Youngstown, O.**—Scotch, foundry, forge, and mill iron. V 61 to 64. 111
- 446 Hunnewell Furnace, Eastern Kentucky Railway Co., Riverton, Ky.**—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 446a Liking Iron Co., Newark, O.**—Pig iron. V 61 to 64. 111
- 447 Pennsylvania Furnace, Eastern Kentucky Railway Co., Riverton, Ky.**—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 448 Charlotte Furnace Co., Riverton, Ky.**—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 449 Laurel Furnace, Robert Scott & Co., Riverton, Ky.**—Pig iron, cold blast charcoal car-wheel iron. T 68. 111
- 450 Gallia Furnace, Norton, Campbell, & Co., Portsmouth, O.**—Pig iron, hot blast charcoal iron. T 68. 111
- 451 Raccoon Mining and Manufacturing Co., Riverton, Ky.**—Pig iron, hot and cold blast charcoal iron. T 68. 111
- 452 Ashland Furnace, Lexington & Big Sandy Railroad Co., Ashland, Ky.**—Pig iron, bituminous coal, and Player hot blast. T 68. 111
- 453 Bellefonte Furnace, Means, Russell, & Means, Ashland, Ky.**—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 454 Norton Iron Works, Ashland, Ky.**—Pig iron, nail plate, nails. T 68. 111
- 455 Buena Vista Furnace, Means & Co., Ashland, Ky.**—Pig iron, hot blast charcoal iron. T 68. 111
- 456 Trigg Furnace, D. Hillman & Sons, Empire Iron Works, Ky.**—Pig iron, cinders, etc.; hot blast charcoal iron. T 68. 111
- 457 Center Furnace, D. Hillman & Sons, Empire Iron Works, Ky.**—Pig iron, hot blast charcoal iron. T 68. 111
- 458 Empire Iron Works, Trigg county, Ky.**—Samples of boiler plate and refined charcoal iron. T 68. 111
- 459 Cleveland Malleable Iron Co., Cleveland, O.**—Malleable iron castings and tackle blocks; fifth wheels. T 55. 111
- 460 Traber & Aubery, Cincinnati, O.**—Broken car-wheels, chill tests, and castings from Hanging Rock pig iron; pig iron. T 68. 111
- 461 Hanging Rock Iron Region, Iron-ton, O.**—Pig iron. T 68. 111
- 462 Sellers, William, & Co., Edgemoor Iron Co., Wilmington, Del.**—Wrought and cast iron work for Main Exhibition Building. 111
- 463 Roberts, A. & P., Pencoyd Rolling Mills, Philadelphia, Pa.**—Wrought iron work for Main Exhibition Building. 111
- 464 Morris, Tasker, & Co., Philadelphia, Pa.**—Cast iron work for Main Exhibition Building. 111
- 465 Watson Manufacturing Co., Paterson, N. J.**—Iron framework of the Main Exhibition Building. 111
- 466 Pusey, Jones, & Co., Wilmington, Del.**—Iron work for Machinery Hall. 111
- 467 State of Michigan (Jay A. Hubbell, Houghton, Mich., Superintendent of Mineral Department).**—V 67.
- a** Pig, ingot, and manufactured iron and steel. 111
- b** Ingot, bar, and rolled copper in its various stages. 112
- c** Maps, models, stamp-mill model, etc. 120
- 468 Manhattan Brass Co., New York, N. Y.**—Sheet brass; brass, copper, and zinc tubing; brass goods, nickel-plated oilers, etc. T 65. 112
- 469 Pope, Cole, & Co., Baltimore Copper Co., Baltimore, Md.**—Specimens of copper mattes and slags, and refined copper; metallurgical products. T 64. 112
- 470 Revere Copper Co., Boston, Mass.**—Copper and yellow metal sheets and bars; tinned metal for stove reservoirs; bronze cannon cast by a patented process. T 64. 112
- 471 Pennsylvania Lead Co., Pittsburg, Pa.**—Refined pig lead from ores of Colorado and Utah. T 63. 113
- 472 Benedict & Burnham Manufacturing Co., Waterbury, Conn.**—Sheet brass, German silver, brass tubing, rods, and wire, lamp burners, etc. T 61. 113
- 473 Passaic Zinc Co., Passaic, N. J.**—Zinc ingots, foil, castings, and oxide; sheet zinc. T 63. 113
- 473a Crocker Bros. & Co., Taunton, Mass.**—T 61.
- a** Copper and yellow metal. 112
- b** Zinc. 113
- 474 Holmes, Booth, & Haydens, Waterbury, Conn.**—Brass and German silver wire, tubing, rivets, lamp trimmings, burners. T 61. 113
- 476 Matthiessen & Hegeler Zinc Co., La Salle, Ill.**—Refined spelter; sheet tin to show the thickness of the common numbers. Various sizes of casks for shipment. Rolled zinc plates for galvanic batteries, lithographing, etc. T 70. 113
- 477 Wharton, Joseph, Camden, N. J.**—Nickel goods. T 63. 114
- 478 Taylor, N. & G., Co., Philadelphia, Pa.**—Tin plate patterns. T 62. 114
- 480 Scovill Manufacturing Co., Waterbury, Conn.**—Sheet brass; German silver, gold and silver plated metal; lamps and trimmings; hinges, buttons, thimbles, castors, metal tubes, etc. P 67. 114
- 481 Ansonia Brass & Copper Co., Ansonia, Conn.**—Brass and copper goods, sheet metal and wire, planished brass and copper. T 54. 114
- 482 Waterbury Brass Co., Waterbury, Conn., and 52 Beekman street, New York, N. Y.**—Brass and German silver in sheets, rolls, wire, and tubes; brass kettles, copper and brass rivets and bolts; percussion caps, all qualities; powder flasks, shot belts and pouches; game bags, metallic eyelets, and tape measures. T 62. 114
- 483 Lancroft, C. E. & H. B., Fair Haven, Conn.**—Sulphates of nickel, ammonia, cobalt, and aluminum. P 68. 114

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Mining Engineering.

Mining Engineering.

484 Holley, Alexander L., New York, N. Y.—Exhibit relating to metallurgical engineering. (*West gallery*). 120

485 State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—Geological maps, mine maps, mine and vein models. T 70. 121

485^a Lowe, S. B., Chattanooga, Tenn.—Map of Chattanooga iron district. X 63. 120

486 Prince, Franklin, & Bullock, E. L., Audenried, Pa.—Model of the Wharton anthracite coal vein at Beaver Brook collieries, Audenried, Pa. T 60. 121

487 Hanford, Theodore, Jersey City, N. J.—Specimen of the strata of the Gravelpit Gold Mines of Ballarat, Victoria, Australia. T 64. 121

488 Charleston, S. C., Mining & Manufacturing Co., Philadelphia, Pa.—Model of their works. Y 60. 121

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

THE American Newspaper Union.

A. J. AIKENS, President.

New York Newspaper Union, 148 and 150 Worth St., New York.	}	315	Newspapers,	\$3.00	per line,	per week.
Chicago Newspaper Union, 114 Monroe St., Chicago.	}	350	"	\$3.50	"	"
Milwaukee Newspaper Union, 365 East Water St., Milwaukee.	}	120	"	\$1.25	"	"
Aikens Newspaper Union, 143 Race St., Cincinnati.	}	200	"	\$2.00	"	"
Southern Newspaper Union, 227 Second St., Memphis, Tenn.	}	145	"	\$1.50	"	"
St. Paul Newspaper Union, 17 Wabashaw St., St. Paul, Minn.	}	73	"	\$.75	"	"

THE ORIGIN OF CO-OPERATIVE NEWSPAPER ADVERTISING.

Co-operative newspaper printing, as now practised, originated in Wisconsin twelve years ago. It is termed *co-operative* for the reason that one side of each of the newspapers is printed at a central office, and the paper sent in its half-printed state to the home office, where it is completed with editorials, local news, and other matter prepared by the editor or publisher. In December, 1846, the idea of co-operation, *with advertisements*, occurred to Mr. Aikens, while yet serving his time as an apprentice, in printing the message of President Polk on one side of a country newspaper of New England at Boston, and the other half being printed at the local office.

Mr. A. J. Aikens, a practical printer and business man, conceived the idea of reducing the cost of ready-printed paper, as it is now termed, to country publishers, by making an agreement with them to use a certain space in each of their papers for advertisements that he might procure. This plan of co-operation he put into practice twelve years ago, at the office of Cramer, Aikens & Cramer, Milwaukee. It at once became successful, leading to the establishment of co-operative newspaper printing-offices in Chicago, New York, St. Louis, Cincinnati, Memphis, St. Paul, and other places. There are now over two thousand newspapers printed upon the co-operative plan in the United States and Canadas, and the number is constantly increasing, it having more than doubled in the last five years. The enterprise is no longer an experiment, but an established success, and the system is one yielding manifold advantages to advertisers as well as to local publishers.

The American Newspaper Union

Is essentially national. The papers represented in it are located in all the States of the Union and in nearly five hundred county seats. They circulate over the whole area of the country from Maine to Colorado, distributing at least *one hundred copies every year to each square mile of the settled portions of the United States.*

Although, as a whole, the Union List is national, covering all sections, it is so made up of different members as to be susceptible of easy division into sections—East, Middle, West, South. The distribution of the papers is as follows:

New England	78	Illinois	117	Nebraska	15
New York	101	Michigan	86	Missouri	17
New Jersey	27	Wisconsin	98	Georgia	10
Pennsylvania	65	Tennessee	29	Alabama	32
Virginia	24	Kentucky	29	Louisiana	11
No. and So. Carolina . . .	24	Minnesota	79	Mississippi	29
Ohio	122	Iowa	85	Other States	46
Indiana	81				

AGGREGATE CIRCULATION.

The circulation of these papers is large and constantly increasing. It is larger than the circulation of any other lists or combinations of country papers in the United States—the *last aggregate weekly circulation being seven hundred thousand seven hundred and thirty copies (700,730).*

SEND TO EITHER OFFICE FOR A CIRCULAR.

HEALTH! BEAUTY!!

Strong, Pure, and Rich Blood, Increase of Flesh and Weight, Clear Skin, and Beautiful Complexion secured to all through

DR. RADWAY'S SARSAPARILLIAN RESOLVENT

Every drop of the Sarsaparillian Resolvent communicates through the Blood, Sweat, Urine, and other fluids and juices of the system the vigor of life, for it repairs the wastes of the body with new and sound material. Scrofula, Consumption, Glandular Disease, Ulcers in the Throat, Mouth, Tumors, Nodes in the Glands and other parts of the system, Sore Eyes, Strumous Discharges from the Ears, and the worst forms of Skin Diseases, Eruptions, Fever Sores, Scald Head, Ring Worm, Salt Rheum, Erysipelas, Acne, Black Spots, Worms in the Flesh, Tumors, and all Weakening and Painful Discharges and Night Sweats are within the curative range of this wonder of Modern Chemistry, and a few days' use will prove to any person using it for either of these forms of disease, its potent power to cure them. If the patient, daily becoming reduced by the wastes and decomposition that are continually progressing, succeeds in arresting these wastes, and repairs the same with new material, made from healthy blood, and this the Sarsaparillian will and does secure, a cure is certain; for, when once this remedy commences its work of purification and succeeds in diminishing the loss of wastes, its repairs will be rapid, and every day the patient will feel himself growing better and stronger, the food digesting better, appetite improving, and flesh and weight increasing. Not only does the SARSAPARILLIAN RESOLVENT excel all known remedial agents in the cure of Chronic, Scrofulous, Constitutional, and Skin Diseases, but it is the only positive cure for Kidney, Bladder, and Urinary Diseases, Gravel, Diabetes, Dropsy, Stoppage of Water, Incontinence of Urine, Bright's Disease, Albuminaria, and in all cases where there are brickdust deposits, or the water is thick, cloudy, mixed with substance like the white of an egg, or threads like white silk, or there is a morbid, dark, bilious appearance, and white bonedust deposits, and when there is a pricking, burning sensation when passing water, and pain in the Small of the Back along the Loins.

Tumor of 12 years' growth cured by Radway's Resolvent.

BEVERLY, MASS., July 18th, 1866.
DR. RADWAY: I have had Ovarian Tumor in the ovaries and bowels. All the doctors said "there was no help for it." I tried everything that was recommended, but nothing helped me. I saw your Resolvent, and thought I would try it, but had no faith in it, because I had suffered for TWELVE YEARS. I took six bottles of the Resolvent, one box of Radway's Pills, and used two bottles of your READY RELIEF, and there is not a sign of a tumor to be seen or felt, and I feel BETTER, SMARTER, and happier than I have for twelve years. The worst tumor was in the left side of the bowels, over the groin. I write this to you for the benefit of others. You can publish if you choose. * * * * *

HANNAH P. KNAPP.

R. R. R.

RADWAY'S READY RELIEF

Cures the worst pains in from one to twenty minutes. Not one hour after reading this advertisement need any one suffer with pain. Radway's Ready Relief is a cure for every pain. It was the first and is *THE ONLY PAIN REMEDY* that instantly stops the most excruciating pains, allays Inflammations, and cures Congestions, whether of the Lungs, Stomach, Bowels, or other glands or organs, by one application, *in from one to twenty minutes*. No matter how violent or excruciating the pain the Rheumatic, Bedridden, Infirm, Crippled, Nervous, Neuralgic, or prostrated with disease may suffer,

RADWAY'S READY RELIEF

Will afford instant ease. Inflammation of the Kidneys, Inflammation of the Bladder, Inflammation of the Bowels, Congestion of the Lungs, Sore Throat, Difficult Breathing, Palpitation of the Heart, Hysterics, Croup, Diphtheria, Catarrh, Influenza, Headache, Toothache, Neuralgia, Rheumatism, Cold Chills, Ague Chills. The application of the READY RELIEF to the part or parts where the pain or difficulty exists will afford ease and comfort. Twenty drops in a half tumbler of water will, in a few moments, cure Cramps, Spasms, Sore Stomach, Heartburn, Sick Headache, Diarrhoea, Dysentery, Colic, Wind in the Bowels, and all Internal Pains. Travelers should always carry a bottle of RADWAY'S RELIEF with them. A few drops in water will prevent sickness or pains from change of water. It is better than French Brandy or Bitters as a stimulant.

FEVER AND AGUE.

FEVER AND AGUE cured for FIFTY CENTS. There is not a remedial agent in this world that will cure Fever and Ague and all other Malarious, Bilious, Scarlet, Typhoid, Yellow, and other Fevers (aided by RADWAY'S PILLS) as quick as RADWAY'S READY RELIEF. Fifty cents per bottle.

DR. RADWAY'S PILLS,

Perfectly tasteless, elegantly coated, for the cure of all Disorders of the Stomach, Liver, Bowels, Kidneys, Bladder, Nervous Diseases, Headache, Constipation, Costiveness, Indigestion, Dyspepsia, Biliousness, Bilious Fever, Inflammation of the Bowels, Piles, and all Derangements of the Internal Viscera. Warranted to effect a Positive Cure. RADWAY'S PILLS will free the system from all the above-named disorders. Price, 25 cents per box.

Read FALSE AND TRUE. Send one letter stamp to RADWAY & Co., No. 32 Warren Street, New York. Information worth thousands will be sent you.

GREAT BRITAIN.

(North of Nave, Columns 23 to 38.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 West Cumberland Iron & Steel Co. (limited), Workington, Cumberland.**
 - a Iron ores. 100
 - b Coal and coke. 101
 - c Limestone. 103
- 1a Whitwell, Thomas, Stockton-on-Tees.—Cumberland ores.** 100
- 2 Wigan Coal & Iron Co. (limited), Wigan, Lancashire, England.—Cannel and gas coal.** 101
- 3 Penrose & Richards, Swansea, South Wales.—Coke fuel.** 101
- 4 Dixon, Frederick, London.—Patent fuel.** 101
- 5 Dudgeon, Arthur, Westminster, London.—Peat fuel, manufactured by the Irish Peat Fuel Co.** 101
- 6 Lindley, Robert Charles, Mansfield, Nottinghamshire.—Stones from the Mansfield quarries.** 102
- 7 Cwmorthin Slate Co. (limited), Portmadoc, North Wales.—Roofing slates.** 102
- 8 Hunter, James, Aberdeen, Scotland.—Red polished granite monument.** 102
- 9 Macdonald, Field, & Co., Aberdeen Granite Works, Aberdeen, Scotland.—Polished red granite monument.** 102
- 10 Pen-yr-orsedd Slate Quarry Co. (limited), Carnarvon, North Wales.—Roofing slates, slate slabs, cisterns, ridges for roofs, billiard slabs, slate partly manufactured.** 102
- 11 Shearer, Smith, & Co., Dalbeattie Granite Quarries, Scotland.—Scotch polished granite, and street paving blocks.** 102
- 12 Bessbrook Granite Works, Bessbrook, Ireland.—Blue and gray Irish granites in headstones, monuments, and building work.** 102
- 13 Great North of Scotland Granite Co. (limited), Peterhead, Scotland.—Monumental pedestal and vase in polished red granite.** 102
- 13a Campbell, Hugh, & Son, Newry.—Polished granite.** 102
- 14 Hollick & Co., Greenwich, London.—Portland cement.** 103
- 15 Patent Selenitic Cement Co. (limited), London.—Method of preparing lime for mortar, for plastering and brickwork, and also for concrete.** 103

- 16 Wouldham Cement Co., Wouldham-on-the-Medway, Kent, England.—Portland cement and its ingredients in different stages of manufacture. Concrete blocks and other objects made therefrom.** 103
- 17 Lavers, Alfred Hamilton, London.—Portland cement, test blocks, cements, plaster of Paris, whitening.** 103
- 17a Busse, G., & Co., London.—Cement.** 103
- 18 Francis & Co., Cliffe Creek, Rochester.—Cements, cement concrete, parian scagliola, and decorated parian.** 103
- 19 Grays Chalk Quarries Co. (limited) Grays, Essex.**
 - a Chalk, whitening, kilndried chalk, gilders' whitening. 103
 - b Flint. 106
- 20 Eastwood & Co. (limited), London.—Portland cement.** 103
- 21 Pike, William Joseph, Wareham, Dorsetshire.—Clays.** 104
- 22 Harrison, George King, Lye & Brettell Lane Fire Clay Mines & Brick Works, Stourbridge, England.—Stourbridge fire clays.** 104
- 23 Dunn, Robert, & Co., St. Austell, Cornwall.—China clay, in its raw material; samples for potting, bleaching, paper manufacturing, etc.** 104
- 24 Oakey, John, & Sons, Wellington Mills, London.—Crude emery stone; grain emery; flour emery.** 106
- 24a Star Plate & Universal Polishing Powder Co., London.—Plate and polishing powder.** 106

Metallurgical Products.

- 25 Johnson, Matthey, & Co., London.—Articles in platinum; rare and precious metals.** 110
- 26 Wigan Coal & Iron Co. (limited), Wigan, Lancashire.—Hematite, foundry, and forge pig iron.** 111
- 27 Great Western Iron Co., Soudley Newnham.—Pig iron.** 111
- 28 West Cumberland Iron & Steel Co. (limited), Workington, Cumberland.—Pig iron, spiegeleisen, granulated blast furnace slag, Bessemer steel in the ingot; steel forgings, rails and rail sections, boiler and bridge plates, railway chairs, etc.; samples illustrating the testing of steel, and its metallurgy.** 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products.

- 29** Smith, Frederick, & Co., Caledonia Works, Halifax, Yorkshire.—Rope, rigging, telegraph, card, reed, and bonnet wire; iron in its various stages of manufacture into wire. 111
- 30** Houghton, William Dickson, Warrington.—Wire for special and general purposes. 111
- 30a** Tayler, D. F., & Co., New Hall Works, Birmingham.—Iron, steel, brass, and copper wire. 111
- 31** Edge & Sons, Coalport Works, Shropshire.—Wire ropes and chains for mining and engineering purposes. 111
- 31a** Hawksworth, Ellison, & Co., Carlisle Works, Sheffield.—Steel, and articles made therefrom. 111
- 32** Ash & Lacy, Globe Works, Staffordshire.—Galvanized, tinned, plain, and corrugated iron sheets; perforated zinc, metals, etc. 111
- 32a** Ward & Payne, Sheffield.—Steel. 111
- 32a** Whitwell, Thomas, Stockton-on-Tees.—Pig iron. 111
- 33** Cammell, Charles, & Co. (limited), Cyclops Steel & Iron Works, Sheffield.—Rolled iron armor plates. 111
- 34** Siemens, Charles William, London.—Specimens of iron and steel. 111
- 34a** Jessop, William, & Sons (limited), Sheffield.—Steel in bars, sheets, and large and small plates. 111
- 34b** Hatton, Sons, & Co., Bilston, Staffordshire.
 a Charcoal sheet iron. 111
 b Charcoal tin plates. 113
- 35** Baldwin, E. P. & W., Wilden Works, near Stourport.
 a Button and sheet iron black plates. 111
 b Tin and terne plates; tinned sheets. 113
- 35a** Warrington Wire Rope Works, Liverpool.—Wire ropes, cord, etc. 111
- 36** Brown, John, & Co. (limited), Atlas Steel & Iron Works, Sheffield.—Armor plates; naval engineering. (*In Machinery Hall.*) 111
- 37** Swansea Tin Plate Co., The Tin & Terne Plate Manufacturers, Swansea Tin Plate Works, Swansea.—Tin and terne plates. 113
- 38** Nash, Henry, & Co., Liverpool.—Tin and terne plates, black plate, and patent continuous roofing terne plate. 113
- 39** Governor & Company of Copper Miners in England, London.—Tin and terne plates. 113
- 40** Morewood, E., & Co., Llanelly.
 a Tin and terne plates. 113
 b Machines for manufacturing tin and terne plate, and galvanized sheet iron. 512
- 41** Phosphor Bronze Co. (limited), London.—Phosphor bronze tools, locks, keys, tubes, wire, sheet, steam fittings, parts of machinery. 114

(N.B. English Exhibits in this department are also installed in Agricultural Hall, and catalogued in that volume.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW ZEALAND.

(North of Nave, Columns 10 to 17.)

Stone, Mining Products, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 **Parapara Iron & Coal Co., Nelson.**
 - a Brown hematite ore. 100
 - b Coal from the Aorere river. 101
 - c Limestone used as a flux for hematite ore. 103
- 2 **Johnstone Bros., Nelson.—Hematite iron ore.** 100
- 3 **Nelson Committee, Nelson.**
 - a Iron, plumbago, galena, zinc blende, copper, antimony, and argentiferous lead ores. 100
 - b Coal from Coalbrookdale, Mount Rochfort, and Reefton. 101
 - c Marble from Ruatanuka, Golden Bay. 102
 - d Porcelain clays from Pakawau and Ruatanuka; steatite from Golden Gully, Collingwood. 104
- 4 **Louisson, T. B., Nelson.—Iron ore, calcined iron ore.** 100
- 5 **Washbourn, W. E., Nelson.—Argentiferous lead ore.** 100
- 6 **Taranaki Committee.**
 - a Titanic iron sand, older tertiary marl, trachyte pebble, trachyte with crystals of hornblende, trachyte cast, hornblende, obsidian, nephrite, taranakite, carnelian. 100
 - b Lignite from Urenui. 101
 - c Potters' clay from Urenui. 104
- 7 **Colonial Museum, Wellington.—James Hector, Director.**
 - a Collection of minerals, containing magnetic iron, hematite, chrome, copper, lead, zinc, and manganese ores. 100
 - b Specimens illustrating the classification of New Zealand coals; petroleum from Sugar Loaf Point, Waipatu, Waipawa. 101
 - c Marble from Collingwood, Nelson. 102
 - d Steatite from Parapara Valley, Nelson. 104

- 8 **Kennedy Brothers, Nelson.**
 - a Coal from the Brunner Mine, and coke manufactured from it. 101
 - b Raw and ground fire clay. 104
- 9 **Albion Coal Co., Nelson.—Coal from Ngakauau.** 101
- 10 **Reid, Alexander W., Canterbury.—Coal from Kowai Pass.** 101
- 11 **Oakden, J. J., Canterbury.—Anthracite coal from Lake Coleridge.** 101
- 12 **Rowley, Wilson, & Co., Otago.—Coal from Shag Point, Palmerston.** 101
- 13 **Ross, A., Poverty Bay, Auckland.—Petroleum.** 101
- 14 **Wilson, W., Christchurch.—Hewn white and yellow limestone.** 102

Metallurgical Products.

- 15 **New Zealand Commissioners.—Specimens of alluvial gold and gold-bearing quartz from Auckland, Westland, and Otago, collected by the Bank of New Zealand.** 110
- 16 **Government of New Zealand.—Specimens of alluvial gold from Nelson and Westland, and of auriferous quartz from the west coast; specimens of alluvial gold from Otago; bars of melted and refined gold; bars of chloride of silver, and silver; model representing gold exported from New Zealand 1862-75.** 110
- 17 **Nelson Committee.—Specimens of auriferous quartz from Reefton.** 110
- 18 **Reefton Committee.—Specimens of auriferous quartz from the Inangahua and Lyell districts, Nelson.** 110
- 19 **Tolhurst, George E., Bank of New Zealand, Wellington.—Models of gold ingots.** 110

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW SOUTH WALES.

(North of Nine, Columns 13 to 15.)

Minerals, Metallurgical Products, Mining Engineering.

Minerals, Ores, Stone, Mining Products.

- 1 McCulloch, Argyle, Tass.—Copper and lead ores from Argyle Mine, ore ore from Argyle. 100
- 2 Street, Seymour C.—Auriferous quartz from Argyle, ore and street ore. 100
- 3 King, P. G., Geelong.—Sulphuret of antimony, from Nundee. 100
- 4 Neward, John, Seville.—Antimony, from Cradine Creek. 100
- 5 Dewhurst, Arthur, Tamworth.—Collection of minerals. 100
- 6 Coulter, Edward, Sydney.—Minerals ore ore containing gold and copper, from Mount Lambie. 100
- 7 Jephson, Wm., Ocala.—Collection of minerals. 100
- 8 Department of Mines, Sydney.—Mineralogical and geological collection, specimens of gold from the Southern, Western, and Northern districts, minerals of gold, nuggets, veins of New South Wales, gold, showing production of New South Wales. 100
- 9 Trowe & Co., Sydney.—Kerosene shale from Murrumbidgee. 100
- 10 Southam, John, Gosford, Brisbane Water.—Just ore from Brisbane Water. 100
- 11 King, F. E., Sydney.—Lignite, from Murrumbidgee. 100
- 12 Wilton, W., Womburn, Richmond, N.S.W.—Sands. 100
- 13 Fort, J. H., Sydney.—Sands, from Murrumbidgee. 100
- 14 Coddell, Alfred, Sydney.—Tin ore and wash dirt from Vegetable Creek Tin Mines. 100
- 15 New South Wales Shale & Oil Company, Sydney.—Kerosene shale. 100
- 16 Trowe, R. & Co., Sydney.—Kerosene shale from Murrumbidgee. 100
- 17 Browne, Thomas, Bishop's Bridge.—Sandstone from West Maitland. 100
- 18 Douglas, W., Sydney.—Slate from a quarry near Gungahlin. 100
- 19 Young, John, Sydney.—Granite from Murrumbidgee. 100
- 20 Mackintosh & Oakes, Bathurst.—Lignite. 100
- 21 Warden, David, Ulladulla.—Kao-lin. 100

Metallurgical Products.

- 22 Lachlan Valley Iron & Coal Co.—Iron. 100
- 23 New South Wales Commissioners.—Lignite. 100
- 24 Moore & Co., Sydney.—Tin ingots. 100
- 25 Vegetable Creek Company, Sydney.—Tin ingots. 100
- 26 New South Wales Commissioners.—Tin ingots, iron, and grain tin. 100

Mining Engineering.

- 27 Coddell, Alfred, Sydney.—Model of shaft of Vegetable Creek Tin Mine, and report, plan, and photographs. 100
- 28 Government Printing Office, Sydney.—New South Wales.—Mining and metallurgy. 100

See also a detailed list of numbers at end of section on Classification, pp. 17-18.

VICTORIA.

(North of Nave, Columns 11 to 13.)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

- 1 Collection of Rocks, Minerals, and Fossils, illustrative of the geology, mineralogy, and mining resources of Victoria, exhibited for, and on behalf of the Government, by R. Brough Smyth, F.G.S., F.L.S., Assoc. Inst. C.E., Secretary for Mines, and Chief Inspector of Mines for the colony.** 100

- a* Older igneous or plutonic rocks.
b Newer igneous or volcanic rocks.
c Aqueous rocks.
d Upper silurian.
e Upper palaeozoic.
f Mesozoic-carbonaceous.
g Tertiary.
h Collection of mineral specimens.
i Economic collection: auriferous quartz.
k Fac-similes of gold nuggets found in Victoria.
l Economic minerals.
m Fossil fruit.

- 2 Acadia Catherine Gold Mining Company, Sandhurst.—Golden stone.** 100

- 3 Bleasdale, J. I., Melbourne.—Collection of gems and precious stones, consisting of diamonds, blue sapphires, oriental emeralds, rubies, aqua-marines, topazes, spinels, beryls, opals, garnets, tourmalines, etc.** 100

- 4 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—**

- a* Fac-similes of nuggets found in Victoria, and mineralogical and geological specimens. 100
b Coal. 101
c Sawn slate, block of granite, polished marble. 102
d Limestones from Major Plains. 103
e Black clay, clay and sand; kaolin clay. 104
f Sharpening stones from Wangunyah. 106

- 5 Costerfield Gold & Antimony Mining Co., Melbourne.—Antimony ore.** 100

- 6 Hanckar, J. H. H., Melbourne.—Nickel ore from the Boa Kaine Mine, New Caledonia.** 100

- 7 McGie, James, & Co., Melbourne.—Nickel ore.** 100

- 8 Shenandoah Gold Mining Co., Sandhurst.—Gold-bearing quartz.** 100

- 9 Mining Department of Victoria, Melbourne.—Coal.** 101

- 10 Mansfield Shire Council, Mansfield.—Polished marble, hewn sandstone.** 102

- 11 Arthur & Dogherly, New Zealand.—Lithographic stone.** 106

- 12 Lewis & Whitty, Fitzroy.—Knife polish.** 106

- 13 Hattersley, J., Yackandandah.—Aerated waters.** 107

- 14 Lyon, George, Spring Creek, Beechworth.—Lemonade, soda water, and ginger ale.** 107

- 15 Rowlands & Lewis, Ballarat.—Tonic potass, soda, lithia, and seltzer waters, and ginger ale.** 107

Metallurgical Products.

- 16 Bright Bros. & Co., Melbourne.—Star antimony in ingots.** 113

- 17 Costerfield Gold & Antimony Mining Co., Melbourne.—Antimony.** 113

- 18 Hodgson, Richard, Collingwood.—Star antimony, pig lead, block tin.** 113

- 19 Croaker, Scott, & Co., Melbourne.—Star antimony.** 113

Mining Engineering.

- 20 Smyth, R. Brough, Department of Mines, Melbourne.—Geological maps, reports, etc.** 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BAHAMAS.

(South of Nave, Columns 15 to 17.)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products

1 Dupuch, Joseph.—Building stone.

208

2 George, Jno. S.—Building stone.

102

BERMUDAS.

(North of Nave, Columns 15 to 17.)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

1 Bermuda, Government of.—Top of a pillar of stalagmite, and a small stalactite from a submerged cave.

100

2 Ness, Ph.—Building stones.

108

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

QUEENSLAND.

(North of North Avenue, Columns 10 to 15.)

Mineral and Metallurgical Products, Mining Engineering.

Minerals, Ores, Stone, Mining Products.

- 1 Aplin, D.—Trophy of tin ores. 100
- 2 Brisbane Tin Mining Co.—Tin ores, wash dirt, etc. 100
- 3 Cloncurry Mine, Proprietors of.—Manganese. 100
- 4 Daintree, Richard.—Collection of rocks, soils, and fossils illustrative of the colony. 100
- 5 Foote, Alfred.—Iron ores from West Moreton. 100
- 6 Gregory, A. C.—Antimony ores. 100
- 7 Henry, Captain.—Nugget of native copper. 100
- 8 Hume, W. C.—Collection of tin ores. 100
- 9 Mount Marley Tin Mining Co.—Collection of tin ores. 100
- 10 Perry, Matthew.—Copper pyrites. 100
- 11 Staiger, C.—Antimony ores. 100
- 12 Tyrrell, J. de F.—Tin ores. 100
- 13 Wilkinson Mine, Proprietors of.—Cinnabar. 100
- 14 Government of Queensland.
 - a Copper ores, fossils, etc., from Ipswich; quartz and gold bearing stone from Gympie, Rockhampton, Ravenswood, Cawarrol, Palmer, Cloncurry, etc. 100
 - b Coal from Ipswich. 101
 - c Building stone. 102
 - d Plumbago. 105
- 15 Aberdare Mine, Proprietors of.—Coal. 101
- 16 Alexander, W. R.—Coal. 101
- 17 Allora Mine, Proprietors of.—Coal. 101
- 18 Bingera Mine, Proprietors of.—Coal. 101

- 19 Blackfellows' Creek Mine, Proprietors of.—Coal. 101
- 20 Bland & Wright, Perseverance Mine.—Coal. 101
- 21 Flagstone Creek, Proprietors of.—Coal. 101
- 22 Gulland & Co., Ipswich.—Coal and coke. 101
- 23 Rosewood Mine, Proprietors of.—Coal. 101
- 24 Tivoli Mine, Proprietors of.—Coal and coke. 101
- 25 Peak Downs Copper Mining Co.—Slab of polished malachite. 102

Metallurgical Products.

- 26 Government of Queensland.
 - a Gold, in nuggets, from Gympie, Rockhampton, Ravenswood, Cawarrol, Palmer, Cloncurry, etc. 110
 - b Tin in ingots. 113
- 27 Government of Queensland.—Refined copper. 112
- 28 Mount Perry Copper Mining Co.—Ingots of copper. 112
- 29 Peak Downs Copper Mining Co.—Trophy of copper ingots. 112
- 30 Bulimba Tin Smelting Co.—Refined tin, in ingots. 113
- 31 Mount Marley Tin Co.—Refined tin, in ingots. 113
- 32 Queensland Smelting & Assaying Co.—Trophy of tin ingots. 113

Mining Engineering.

- 33 Clifton Mine, Proprietors of.—Fossils, kaolin, etc., showing strata of mine. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TASMANIA.

(South of North Avenue, Columns 13 to 15.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products

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| 1 British & Tasmanian Charcoal Iron Co.—Iron ores. | 100 |
| 2 Hammond, W., Hobart Town.—Bismuth, from Mount Ramsey. | 100 |
| 3 Harrap, A., Launceston.—Petrified wood. | 100 |
| 4 Hull, Henry J., Hobart Town.—Tin ore, from George's Bay. | 100 |
| 5 Innes, J. H., Hobart Town.—Tin ore, from Rongarooma. | 100 |
| 6 Just, T. C., Launceston.—Iron ores and asbestos. | 100 |
| 6a Royal Society of Tasmania.—Topazes and beryls from Bass's Straits Island. | 100 |
| 7 Smart, Dr., Hobart Town.—Gold, in quartz. | 100 |
| 8 Smith, James, Launceston.—Bismuth, from Mount Ramsey. | 100 |
| 9 Stanhope Company.—Tin ore. | 100 |
| 10 Harcourt, James, Hobart Town. | |
| a Iron ores. | 100 |
| b Coal from Seymour. | 101 |

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| 11 Hematite Iron Works, West Tamar. | |
| a Iron ores. | 100 |
| b Blue and white marble limestone. | 102 |
| 12 Lyell & Gowan, Melbourne. | |
| a Tin ore from Mount Bischoff. | 100 |
| b Coal from river Don. | 101 |
| c Slate from Piper's river. | 102 |
| d Marble limestone from river Don. | 103 |
| 13 Groom, F., Harefield.—Coal. | 101 |
| 14 Hurst, J., Hobart Town.—Coal from Tasman's Peninsular. | 101 |
| 15 Kermode, W. A., Mona Vale.—Gray and brown freestone. | 102 |
| 16 Raynor, E., Bridgewater.—Limestone, with fossils. | 102 |
| 17 Coverdale, John, Port Arthur.—Pipe clay. | 104 |

Metallurgical Products.

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| 18 Harcourt, James, Hobart Town.—Pig iron and castings. | 111 |
| 19 Hematite Iron Works, West Tamar.—Pig iron and castings. | 111 |
| 20 Mount Bischoff Tin Mining Co., Mount Bischoff.—Tin, in ingots. | 113 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

INDIA.

(North of Nave, Columns 22 to 25.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Collections selected from the India
MUSEUM BY J. FORBES WATSON, M.A.,
M.D., LL.D., DIRECTOR OF THE INDIA
MUSEUM, ETC.

Minerals, Ores, Stone, Mining Pro-
ducts.

- a Iron ores and magnetic iron sand from the Madras Presidency; iron ores from the Bombay Presidency; iron ores and magnetic iron sand from the Bengal Presidency; chrome iron ores from Salem and South Arcot; manganese ores from the Madras Presidency; copper ores from Nellore, Singbhum, and Deoghur; copper pyrites from the hills of Beloochistan; malachite from Central India; lead ore from Deoghur; galena from the Malanna and Parbutti mines, and from Catloor, Karnul, Chota Nagpur, Duttiah, Hazaribagh, and Beloochistan; (stibnite antimony ore) from Shigri, Busoh, Borneo, and Sarawak; tin stone from Junk Ceylon, Malacca, Kuhn, Mergui, Tenasserim, Larut, and Johore; gold sand from Purulia, Toradanally, Dandput, Rangoon, and Ramnagherry; arsenical ores from Pegu, Burmah, Tenasserim, Bengal, and Madras; sulphur from Rangoon and Shoruns. 100
- b Coal from Nerbudda Coal and Iron Co., Gurrawarra, Oormoo, Chigo, and Malacca; lignite from Darjiling; petroleum and naphtha from Burmah. 101
- c Limestone from South Arcot, Nellore, Tripattur, Masulipatam, and Beronda; calcite from Ranigunj; calc spar from

- Kabul; selenite from Ava; white mica from Salem; black mica from Behar; agalmatolite from Chota Nagpur; zeolites from Deccan; lime from Bownee, Salem, Bellary, and Soonporah. 103
- d Clays, for pottery, from South Arcot, Madura, North Arcot, Sadigeri, Bangalore, and Vizianagram; powdered mica from Lahore; quartz, yellow and red ochre, fire and china clays from Madras; ball clay from Mangalore and Raepore; raw, fine white, and prepared clay, powdered marble, red lead and red ochre from Pattan; litharge from Calcutta; white lead from Punjab; white earth from Beronda; geroo from Raepore; pink and yellow earth from Paldeo; white earth from Punnah; yellow earth from Alipore; pipe clay from Singapore; red clay from Duttiah; white earth from Kotee; fullers' earth from Sind. 104
- e Graphite from Cavlatten Coodul, Trevandrum, Almorah, and Ceylon. 105
- f Corundum from Madras, Salem, and Mysore; agates and carnelians from Cambay; gem sand from Ceylon; ruby sand from Travancore; rough garnets from Mysore and Vizianagram; calderite from Nepal; tourmaline from Nellore; epidote granite from Madras. 107
- g Fibrous gypsum from Karnul; reh from Buttiana. 107

Metallurgical Products.

- A Crude iron from Assam; Wootz steel; native iron; native iron with slag. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CANADA.

(North of Nave, Columns 16 to 23.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

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| <p>Minerals, Ores, Stone, Mining Products.</p> <p>1 Gatling Gold Mining Co., Marmora, Ont.—Gold-bearing arsenical pyrites. 100</p> <p>2 Russell, W. W., Ottawa, Ont.—Gold in quartz. 100</p> <p>3 Lindsay, J. A., Toronto, Ont.—Gold, silver, and magnetic ores. 100</p> <p>4 Jackfish Lake Gold Mining Co., Toronto, Ont.—Gold and silver, in quartz. 100</p> <p>5 McKellar Bros., Prince Arthur's Landing, Ont.—Gold, in quartz. 100</p> <p>6 McKellar, D., Prince Arthur's Landing, Ont.—Gold, in quartz. 100</p> <p>7 Toronto Gold Mining Co., Toronto, Ont.—Gold-bearing arsenical pyrites. 100</p> <p>8 Lockwood, W. P., St. Francois, Q.—Model of gold nugget. 100</p> <p>9 Geological Survey, Canada, Q.</p> <p> a Quartz, magnetic sand, and alluvial gold, models of gold nuggets, platinum, copper pyrites, native copper, magnetite, magnetic iron sand, hematite, iron ores, iron pyrites, native iron, antimony ore, galena, blende, barytes, mica, magnesite, kermesite, celestine, albite, orthoclase, asbestos, amethyst, agates, and Canadian rocks. 100</p> <p> b Coal from Saskatchewan river, bituminous shale, crude and inspissated petroleum. 101</p> <p> c Sandstones, marbles, marble column, dolomite, limestone, syenite, granite, gneiss, labradorite, jasper conglomerate, ornamental and polished slate, cut and polished stones. 102</p> <p> d Hydraulic cement, gypsum. 103</p> <p> e Clay, fire clay, clay for moulding, river and moulding sand, soapstone. 104</p> <p> f Graphite. 105</p> <p> g Lithographic stones, grindstones, whetstones, burr stones, granite for millstones. 106</p> <p> h Brine, mineral water, phosphate of lime, shell marl. 107</p> <p>10 Oppenheimer Bros., Victoria, Br. Col.—Gold nugget. 100</p> <p>11 Robertson, Robt., Halifax, N. S.—Representation of the gold fields of Nova Scotia. 100</p> <p>11a Morton, George, Frontenac Lead Mine.—Pig lead. 100</p> <p>12 Donaldson, T. B., Oldham, N. S.—Gold in quartz. 100</p> <p>13 Sibley, A. H., Silver Islet, Ont.—Silver ores and native silver. 100</p> <p>13a Moody & Nelson, Victoria, B. R.—Native copper. 100</p> <p>14 McKellar Bros., Fort William, Ont.—Silver ores, native silver, copper pyrites, and barytes. 100</p> | <p>15 Marks, T., & McKellar Bros., Fort William, Ont.—Silver ores. 100</p> <p>16 Dawson, S. J., Ottawa, Ont.—Silver ores. 100</p> <p>16a Simpson, John, Upham, N. B.—Manganese. 100</p> <p>17 Cyrette, Ambrose, Fort William, Ont.—Silver ores. 100</p> <p>18 Van Norman, Judge, Prince Arthur's Landing, Ont.—Native silver and silver ores. 100</p> <p>19 Plumber, McIntyre, & Russ, Fort William, Ont.—Silver ores. 100</p> <p>19a Jones, T. R., & Co., St. John, N. B.—Copper ore. 100</p> <p>20 Eames, Prof., Pie Island, Ont.—Silver veinstone. 100</p> <p>21 Stephen, George, Montreal, Q.—Silver ores. 100</p> <p>22 Eureka Mining Co., Victoria, Br. Col.—Silver ores. 100</p> <p>23 Mechanics' Institute, North Westminster, Br. Col.</p> <p> a Platinum. 100</p> <p> b Anthracite. 101</p> <p>24 West Canada Mining Co., Wellington, Ont.—Copper pyrites, copper ore. 100</p> <p>25 Hime, H. L., Toronto, Ont.—Copper pyrites. 100</p> <p>26 Plumber, B., Bruce Mine, Ont.—Copper pyrites. 100</p> <p>27 Oliver, Geo., Perth, Ont.—Copper pyrites, bog iron ore. 100</p> <p>28 Ontario Advisory Board, Toronto, Ont.</p> <p> a Copper pyrites, magnetic hematite, galena. 100</p> <p> b Serpentine, syenite. 102</p> <p> c Graphite. 105</p> <p> d Emery. 106</p> <p> e Phosphate of lime, shell marl. 107</p> <p>29 Shaw, P., Harvey Hill, Q.—Copper pyrites. 100</p> <p>30 Stewart, W. W., Montreal, Q.—Native copper. 100</p> <p>31 Douglas, Dr., Quebec, Q.—Copper ore. 100</p> <p>32 Davidson, Wm., Alma, N. B.—Copper glance. 100</p> <p>33 Russell, Grand Manan, N. B.—Copper glance. 100</p> <p>34 Cole, Rufus, Dorchester, N. B.—Copper glance. 100</p> <p>35 Sweet, R. J., Halifax, N. S.—Copper glance. 104</p> <p>36 Lloyd, H. C., Madoc, Ont.—Magnetite, hematite. 105</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48.

Mining and Metallurgy.

- 37 Ledyard, T. D., Toronto, Ont.—Magnetite. 100
- 38 Haycock, Will., Templeton, Q.—Magnetite. 100
- 39 Cobourg & Petersboro' Iron Co., Belmont, Ont.—Magnetite. 100
- 40 Bishop, A., Bell's Corners, Ont.—Magnetite. 100
- 41 Foley, James, Bathurst, Ont.—Magnetite with apatite. 100
- 42 Baldwin, A. H., Hull, Q.—Magnetite. 100
- 43 Chipman, David, Berwick, N. S.—Magnetite. 100
- 44 Lewis, Queen Charlotte's Island, Br. Col.—Magnetite. 100
- 45 Cowan, A., Brockville, Ont.
a Hematite, burnt iron pyrites. 100
b Phosphate and superphosphate of lime. 107
- 46 Crawford, J. D. & Co., Montreal, Q.—Hematite, spathic iron ore. 100
- 47 Ganthier, O., St. Urbain, Q.—Titanic iron ore. 100
- 48 Matheson & Gilice, Sydney, N. S.—Hematite. 100
- 52 Ottawa Iron & Steel Co., Ottawa, Ont.—Iron ore. 100
- 53 Stobie, James, Sault St. Marie, Ont.—Iron ore. 100
- 54 Duval, H. H., Quebec, Q.—Titanic iron ore. 100
- 55 McDougall, John, Three Rivers, Q.—Bog iron ore. 100
- 56 Steel Co. of Canada, Londonderry, N. S.—Iron ores. 100
- 57 MacKinnon, J. C., Whycocomagh, N. S.—Iron ores. 100
- 58 Duhamel, Dr., Quebec, Q.—Iron pyrites. 100
- 59 Russell, Willis, Lotbiniere, Q.—Antimony ore. 100
- 60 Hibbard, F., Prince William, N. B.—Antimony ore. 100
- 61 Hime, L. H., Toronto, Ont.—Galena and copper pyrites, with silver and gold. 100
- 62 Sibley, Col., & McIntyre, J., Silver Islet, Ont.—Galena. 100
- 63 Johnson, C. J., Wallaceburg, Ont.—Galena, blende. 100
- 64 Devine, Thos., Toronto, Ont.—Galena. 100
- 65 Wearne, Capt., Toronto, Ont.—Galena, blende. 100
- 66 Markham, A., Hammond, N. B.—Pyrolusite. 100
- 67 Brown, J., N. S.—Pyrolusite. 100
- 68 Galway Lead Mining Co., Galway, Ont.—Barytes, calcspar. 100
- 69 Dolphin Manufacturing Co., Five Islands, N. S.—Barytes. 100
- 70 Starr, John, Halifax, N. S.—Barytes. 100
- 71 Baker Mine, North Burgess, Ont.—Mica in plates. 100
- 72 Ackerly, James, Five Islands, N. S.—Dogtooth spar. 100
- 73 Dopp, Geo., Berlin, Ont.—Amethyst, fluorspar, and pyrites. 100
- 74 McVicar, Geo., Toronto, Ont.—Amethyst. 100
- 75 Blackwood, R., Toronto, Ont.—Amethyst, fluorspar, and pyrites. 100
- 76 Morrison, W. A., Toronto, Ont.—Collection of Canadian precious stones. 100
- 77 Poole, H. S., Halifax, N. S.—Ores and associated rocks. 100
- 78 Honeyman, Dr., Halifax, N. S.—Collection of Nova Scotia rocks. 100
- 80 Bailey, G., Grand Lake, N. B.—Coal. 101
- 81 Hall, William, Springhill, N. S.—Coal. 101
- 82 Mitchell, Henry L., Glace Bay Mines, N. S.—Coal. 101
- 83 McQueen, Wm., Blockhouse Mines, N. S.—Coal. 101
- 84 Brown, R. H., Sydney Mines, N. S.—Coal. 101
- 85 McDonald, R. A., International Mines, N. S.—Coal. 101
- 86 McKeen, David, Caledonia Mines, N. S.—Coal. 101
- 87 Archibald, T. D., Gowrie Mines, N. S.—Coal. 101
- 88 Sutherland, James, Big Glace Bay, N. S.—Coal. 101
- 89 Fraser, J. W., Victoria Mines, N. S.—Coal. 101
- 90 Routledge, William, Gardiner Mines, N. S.—Coal. 101
- 91 Campbell, C. J., North Campbellton, N. S.—Coal. 101
- 92 Hoyt, Jesse, Acadia Mines, N. S.—Coal. 101
- 93 Hudson, James, Albion Mines, N. S.—Coal. 101
- 94 Simpson, Robert, Intercolonial Mines, N. S.—Coal. 101
- 95 Greener, John, Vale Colliery, N. S.—Coal. 101
- 96 Bennett, Wm., Scotia Mines, N. S.—Coal. 101
- 97 Sterling, E., Cape Breton, Big Glace Bay, Sydney, and L. Mines, N. S.—Coal. 101
- 98 Union Mining Co., Union Mines, Comox, Br. Col.—Coal. 101
- 99 Baynes Sound Mining Co., Baynes Sound Mines, Br. Col.—Coal. 101
- 100 Vancouver Mining Co., Vancouver Mines, Br. Col.—Coal. 101
- 101 Wellington Mining Co., Wellington Mines, Br. Col.—Coal. 101
- 102 Ketchum, E. K., Albert Mines, N. B.—Albertite and bituminous shale. 101
- 103 Byers, J., Albert Mines, N. B.—Albertite. 101
- 104 Smith, Wm., Toronto, Ont.—Peat. 101
- 106 Griffin, R. A., Huntingdon, Q.—Peat. 101
- 107 Belliveau Albertite & Oil Co., Westmoreland, N. B.—Albertite mineral oil. 101
- 108 Waterman Bros., London, Ont.—Petroleum and products. 101
- 109 Gibson, Robert L., Grimaby, Ont.—Building sandstones. 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Mineral Water, Metallurgical Products.

- 110 Farquhar & Booth, Esquesing, Ont.—Building sandstones and flagging. 102
- 111 Skead, Gloucester, Ont.—Building sandstones. 102
- 112 Londley, Beckwith, Ont.—Building sandstones. 102
- 113 Rankin, John, Pembroke, Ont.—Building sandstones. 102
- 114 Bishop, Henry, Nepean, Ont.—Building sandstones. 102
- 115 Decew, William, Oneida, Ont.—Building sandstones. 102
- 116 McGregor, Lachute, Q.—Building sandstones and limestones. 102
- 117 Goodfellow, Joseph, North Esk, N. B.—
a Building sandstones. 102
b Grindstones. 106
- 118 Dor, U. Free Stone Co., Budreau, Vil., N. B.—Building sandstones. 102
- 119 Caledonia Free Stone Co., Rockland, N. B.—Building sandstones. 102
- 120 Roberts & Co., Mary's Point, N. B.—Building sandstones. 102
- 121 Bayview Quarry Co., Albert City, N. B.—Building sandstones. 102
- 122 Hopewell Quarry Co., Shepody Mt., N. B.—Building sandstones. 102
- 123 McQuarrie, John, George River, N. S.—Building sandstones. 102
- 124 Gilpin, Edwin, Springville, N. S.—
a Building sandstones. 102
b Limestone. 103
c Fire brick and fire clay. 104
- 125 Hcustis, R. B., Wallace, N. S.—Building sandstones. 102
- 126 McDonald, George J., Cornwallis, N. S.—Building sandstones. 102
- 127 Peters, Henry S., Halifax, N. S.—Building sandstones. 102
- 128 Vancouver Coal Co., Vancouver Island, Br. Col.—Building sandstones, marble, limestone. 102
- 129 Howley, James, Montreal, Q.—
a Building and flagging sandstones. 102
b Sandstone for glass-making. 104
- 130 Pitton & Co., Quebec, Q.—Sandstone, flagging, curbstones. 102
- 131 Worthington & Co., Montreal, Q.—
a Polished marble. 102
b Limestone. 103
- 132 Somerville, P. T., Arnprior, Ont.—Marble monument. 102
- 133 Halon, Alphonse, Quebec, Q.—Marble. 102
- 134 Benjamin, H., & Co., Montreal, Q.—
a Marble. 102
b Lime. 103
- 135 Brunet, Joseph, Montreal, Q.—Marble monument. 102
- 136 Langevin, A. B., Quebec, Q.—Marble. 102
- 137 Silver, John, Halifax, N. S.—Marble. 102
- 138 McQuarrie, John, George River, N. S.—Marble and syenite. 102
- 139 Ingram, Wm., St. George, N. B.—Red granite clock case. 102
- 140 Baxter, B., Cayuga, Ont.—
a Dolomite. 102
b Lime and limestone, hydraulic cement. 103
- 141 Barclay & Morrison, Stony Mount Manitoba.
a Dolomite. 102
b Clay. 104
- 142 Hayslip, John, Goderich, Ont.—Limestone. 102
- 143 Young, Y. & G., Gloucester, Ont.—Limestone. 102
- 144 Levallée, N., Carleton Place, Ont.—Limestone. 102
- 145 Kirkpatrick Quarry, Parrsboro', Q.—Limestone. 102
- 146 Forsyth, Robert, Montreal, Q.—Red granite monument. 102
- 147 Bay of Fundy Red Granite Co., St. George, N. B.—Red polished granite. 102
- 148 Danville School Slate Co., Danville, Q.—Ornamental slate panel, slates in blocks. 102
- 149 Danville Slate Co., Danville, Q.—School slates. 102
- 150 Rockland Slate Quarry, Melbourne, Q.—Slates. 102
- 151 DeCew, William, Cayuga, Ont.—
a Lime and limestone. 103
b Sandstone for glass-making and furnace lining. 104
- 152 Whitson & Slater, St. Marys, Ont.—Lime and limestone. 103
- 153 Dunbar, George, Rockwood, Ont.—Lime and limestone. 103
- 154 Lewis, Levi, Kincardine, Ont.—Lime and limestone. 103
- 155 Buxton, George, Goderich, Ont.—Lime and limestone. 103
- 156 Emsley, R., Guelph, Ont.—Lime and limestone. 103
- 157 Ballantyne, Mrs., Galt, Ont.—Lime and limestone. 103
- 158 Farquhar, E. & C., Dundas, Ont.—Lime and limestone. 103
- 159 Goudie, Thomas, Limehouse, Ont.—Lime and limestone. 103
- 160 Lavallée, N., Carleton Place, Ont.—Lime and limestone. 103
- 161 Baker, W., Arnprior, Ont.—Lime and limestone. 103
- 162 Quebec Advisory Board, Quebec, Q.—
a Lime and limestone. 103
b Porcelain clay. 104
c Phosphate of lime, chalk. 107
- 163 Garvies, C. A., Montreal, Q.—Lime and limestone. 103
- 164 Robitaille, Dr., Quebec, Q.—
a Limestone. 103
b Marl. 107
- 165 Quesnal, Sheriff, Arthabaska, Q.—Lime and hydraulic cement. 103
- 166 Douglas, David, Pugwash, N. S.—Lime. 103
- 167 Goudie, Thomas, Limehouse, Ont.—Hydraulic cement. 103
- 168 McKay, Wm., Ottawa, Ont.—Hydraulic cement and artificial stone. 103
- 169 Buchanan Mineral Co., Hamilton, Ont.—Cement and mastics. 103
- 170 Gauvreau, P., & Co., Quebec, Q.—Cements and plasters, artificial stone. 103
- 171 Hill, Albert J., Sydney, N. S.—Selenite. 103

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Stone.

- 172 Gregory, V. R., & Co., Toronto, Ont.—Artificial stone monument. 103
- 173 Wandly, Henry, Clover Hill, Toronto, Ont.—Artificial stone. 103
- 174 Milner & Herd, Strathroy, Ont.—Artificial stone window cap. 103
- 175 Joslyn, J. H. L., Box 153, Tilsonburg, Ont.—Marbleade roofing, a seamless sheet of artificial stone, not excessively heavy, but wonderfully efficient; not resting on the roof boards, but accommodated to them by an intervening plastic waterproof composition. 103
- 176 Riggins, George, Kincardine, Ont.—Clay for bricks. 104
- 177 Russell, Samuel, London, Ont.—Clay for bricks. 104
- 178 Munn & Cochner, Dundas, Ont.—Clay for bricks. 104
- 179 Leslie, Robert, Glenwilliam, Ont.—Clay for bricks. 104
- 180 Townshend, Mrs. Mary, Rockville, Ont.—Clay for bricks. 104
- 181 Anderson, Thos., Nepean, Ont.—Clay for bricks. 104
- 182 Cashmore, Thos., Pembroke, Ont.—Clay for bricks. 104
- 183 McGregor, Daniel, Pembroke, Ont.—Clay for bricks. 104
- 184 Baker, William, Arnprior, Ont.—Clay for bricks. 104
- 185 Foshick, Encas, Ramsay, Ont.—Clay for bricks. 104
- 186 Moore, Gilbert, Ramsay, Ont.—Clay. 104
- 187 Coulter, James, Ramsay, Ont.—Clay. 104
- 188 Metcalfe, James, Ramsay, Ont.—Clay. 104
- 189 Foster, W. A., Belleville, Ont.—Clay. 104
- 190 Workman, Hugh, Brantford, Ont.—Clay. 104
- 191 Peel, Thos. W., Montreal, Q.—Clay. 104
- 192 Mochan, Albert, St. Johns, Q.—Clay. 104
- 193 Jackson, Charles, Woodstock, N. B.—Clay. 104
- 194 Wells, William, Beamsville, Ont.—Pottery clay. 104
- 195 Ahren, J. H., Paris, Ont.—Pottery clay. 104
- 196 Pratt, Charles, London, Ont.—Pottery clay. 104
- 197 Farrar, G. H. & L. E., St. Johns, Q.—Pottery clay. 104
- 198 Bell, David, St. Johns, Q.—Clay drain tile. 104
- 199 Copeland & McLaren, Montreal, Q.—Fire clay, sandstone facing for furnaces. 104
- 200 McMann, G. N., Grand Lake, N. B.—Fire clay. 104
- 201 Bannerman, Robert, Montreal, Q.—Pipe clay. 104
- 202 St. Johns Stone Chinaware Co., St. Johns, Q.—Fire brick. 104
- 203 Bishop, H., Nepean, Ont.—Sandstone for glass-making. 104
- 204 McDougall, John, & Sons, Three Rivers, Q.—Sandstone for furnace lining. 104
- 205 Oil Cloth Factory, Yorkville, Ont.—Sand. 104
- 206 Jackson, Charles, Woodstock, N. B.—Brick sand. 104
- 207 Sweet, S. H., Wentworth, N. S. a Kaolin. 104
b Gypsum. 107
- 208 McDonald, George J., Cornwallis, N. S.—Refractory stone. 104
- 209 Law, John, London, Ont.—Black lead crucible. 105
- 210 Dominion of Canada Plumbago Co., office, Ottawa, Ont.; mines and works, Buckingham, Province of Quebec.—Manufacturers of electrotyping, lubricating, pencil, crucible, stove polish, and other stock of every grade. Assays and tests prove quality. Prices are ordinary current market rates. 105
- 211 Millet, John G., Grenville, Q.—Graphite. 105
- 212 Montreal Plumbago Mining Co., Montreal, Q.—Stove polish. 105
- 213 Martin, Charles, Montreal, Q.—Stove polish. 105
- 214 Kelly, John, Belleville, Ont.—Lithographic stones. 106
- 215 Ontario Lithographic Stone Co., Marmora, Ont.—Lithographic stone. 106
- 216 Read, Stevenson, & Co., Dorchester, N. B.—Grindstone polishing and cutters' stone. 106
- 217 Seaman & Co., Lower Cove, N. S.—Grindstones. 106
- 218 Douglass, David, Port Philip, N. S.—Grindstones. 106
- 219 Leroux, G., Quebec, Q.—Millstones. 106
- 220 Casgrain, Stonesham, Q.—Tripoli. 106
- 221 Fisher, W., Victoria, Br. Col.—Tripoli. 106
- 222 Coleman, William, Paris, Ont.—Raw and prepared gypsum. 107
- 223 Ontario Plaster Co., Mt. Healy, Ont.—Raw and prepared gypsum. 107
- 224 Converse, John A., Montreal, Q.—Raw and prepared gypsum. 107
- 225 Brown, A., Petitcodiac, N. B.—Gypsum and selenite. 107
- 226 Tobique Gypsum Co., Tobique, N. B.—Gypsum. 107
- 227 Albert Manufacturing Co., Hillsboro, N. B.—Calined and anhydrous gypsum; alabaster. 107
- 228 McDonald, R. N., International Museum, N. S.—Gypsum. 107
- 229 Nova Scotia Advisory Board, Halifax, N. S.—Gypsum. 107
- 230 Davidson, H. A., Black River, N. S.—Gypsum. 107
- 231 Cove, Jas. A., Claremont Hill, N. S.—Gypsum. 107
- 232 Fulton, C. A., Wallace, N. S.—Gypsum. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Minerals, Metallurgical Products.

232a Meighen Bros., Perth, Ont.— Phosphate of lime. 107	Metallurgical Products.
233 McLennan, Jos., Montague, N. S.— Gypsum. 107	245 Silver Islet Co., Silver Islet, Ont.— Ingot of silver. 110
234 Merchants' Salt Co., Seaforth, Ont.— Brine. 107	246 Ottawa Iron & Steel Manufacturing Co., Ottawa, Ont.—Iron billets. 111
235 International Works, Goderich, Ont.—Brine. 107	247 Field & Aydon Patent Smelting Co., Marmora, Ont.—Pig iron, smelted with pure petroleum. 111
236 Ransford, H., Clinton, Ont.—Brine. 107	248 Gauthier, O., St. Urbain, Q.—Titanic pig iron. 111
237 Tecumseh Works, Goderich, Ont.—Brine. 107	249 McDougall, John, & Sons, Three Rivers, Q.—Charcoal iron; iron bars, bent and twisted cold; axes, tomahawk, slag. 111
238 Gray, Young, & Spalding, Seaforth, Ont.—Brine. 107	250 Canadian Titanic Co., Baie St. Paul, Q.—Slags, titanic iron. 111
239 Jourvie, J. A., & Co., Caledonia Springs, Ont.—Saline, gas, and sulphur waters. 107	251 Chénic Eugene, Quebec, Q.—Viger steel. 111
240 Winning, Hill, & Ware, Montreal, Q.—Carratraca water. 107	252 Moisis Iron Works, Montreal, Q.—Iron, iron bloom. 111
241 Gee, J. N., St. Francis Spring, Q.—Mineral water. 107	253 McDougall, John, Montreal, Q.—Iron bloom, car-wheels. 111
242 Hickman, James S., Amherst, N. S.—Saline water. 107	254 Steel Co. of Canada, Londonderry, N. S.—Iron and steel. 111
243 Murray, Edmund W., Buckingham, Q.—Phosphate of lime. 107	255 West Canada Mining Co., Bruce Mines, Ont.—Ingot copper. 112
244 Buckingham Mining Co., Buckingham, Q.—Crystal phosphate of lime. 107	256 Lake George Antimony Co., Prince William, N. B.—Babbit metals, regulus, slags, oxidized ore. 113

FRANCE.

(The French Exhibits in Mining and Metallurgy are installed in the Agricultural Building, and Catalogued in Part IV.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Minerals, Ores, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Krupp, Fr., Essen.—Ores and raw products. 100
- 2 Burbach Works, Burbach.
 - a Iron. 100
 - b Coal. 101
 - c Stone. 102
- 3 Heinrichshütte, Au-on-the-Sieg.—Spathic iron ore. 100
- 4 Mine Owners of the Siegerland.—Ores, etc. 100

(The above exhibits are installed in Machinery Hall.)

COLLECTIVE EXHIBIT OF PRODUCTIONS OF LEAD MINES AND FURNACES, ACCOMPANIED BY DRAWINGS.

- 5 Royal Prussian Smelting Works of the Upper Harz, Clausthal.—Lead, copper, and zinc ores. 100
- 6 Royal Prussian & Ducal Brunswick Smelting Works of the Lower Harz, Gaslar.—Argentiferous copper and lead ores. 100
- 6a Royal Prussian Smelting Works, Friedrichshütte.—Ores and litharge. 100
- 7 Joint Stock Association for Mining, Lead & Zinc Manufactures, Stolberg, near Aix-la-Chapelle.—Lead and zinc ores. 100
- 8 Rhenish-Nassau Co., Stolberg, near Aix-la-Chapelle.—Lead ores. 100

- 9 Solenhofen Joint Stock Co., Solenhofen.
 - a Tiles for malt-house floors. 102
 - b Lithographic stones. 106
- 10 Zimmermann, Otto, Greussen, To-phus.—Tiles. 102
- 11 Stern Portland Cement Factory, Stettin.—Portland cement. 103
- 12 Hiller, Otto, Berlin.—Mastic roofing and model roof. 103
- 13 Häeusler, Carl Sam., Hirschberg, Silesia.—Wood cement and model roof. 103
- 14 Scharlach, Louis, jr., Hamburg.—Roofing. 103
- 15 Vowohl Asphalt Works, Eschershausen.—Asphalt mastic blocks. 103
- 16 Schindel, John Adam, Solenhofen.—Lithographic stones. 106
- 17 Apollinaré's Co., Ahnweiler.—Mineral waters. 107
- 17a Bisresborn Mineral Spring Co., Bisresborn.—Mineral waters. 107
- 18 Jungfer, A., Berlin.—Amber. 107
- 19 Stantien & Becker, Berlin.—Raw amber. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- 20 Managers of Friedrichshall Springs, C. Oppel & Co., Friedrichshall, near Hilburghausen.—Friedrichshall natural bitter water. 107
(For mill and grindstones, see Machinery Hall.)

Metallurgical Products.

- 21 Borsig, A., Berlin.—Iron, cast steel, boiler plates, plates for fire boxes, etc. 111
- 22 Burbach Works, Burbach.—Rolled double T iron. 111
- 23 Krupp, Fr., Essen.—Wheels, pistons, flanges, rollers, springs, etc. 111

COLLECTIVE EXHIBIT, SIEGERLAND.—SPIEGELEISEN AND ORES.

- 24 Heinrichshütte, Au-on-Sieg.—Spiegel iron. 111
- 25 Cologne Müsen Mining Co., Creuzthal.—Spiegel iron. 111
- 26 Joint Stock Co., Charlottenhütte, Niederschelden.—Spiegel iron. 111
- 27 Wissen Mining & Smelting Co., Wissen.—Spiegel iron. 111
- 28 Lohmann & Söding, Witten.—Steel for tools and arms. 111
- 29 Westphalian Union Joint Stock Co. for Mining & for Iron & Wirework, Hamm.—Wire. 111

(The above exhibits of Metallurgical Products are installed in Machinery Hall.)

- 30 Royal Prussian Smelting Works of the Upper Harz, Clausthal.—Lead, copper, silver, zinc fumes, slags, drawings, etc. 111
- 31 Royal Prussian & Ducal Brunswick Smelting Works of the Lower Harz, Gaslar.—Gold, silver, lead, and copper composition. 111
- 32 Royal Prussian Smelting Works, Friedrichshütte.—Lead bars, slag, and drawings. 111
- 33 Hirsch, Aron, & Son, Brass Works at Neustadt-Eberswalde.—Seamless brass tubes, etc. 112
- 34 Joint Stock Association for Mining, Lead & Zinc Manufactures, Stolberg, near Aix-la-Chapelle.—Lead and zinc plates, etc. 111
- 35 Ruffer & Co., Breslau.—Sheet zinc. 113
- 35a Rhenish-Nassau Co., Stolberg, near Aix-la-Chapelle.—Lead. 111

Mining Engineering.

- 36 Nörr, Eugene, Berlin.—Drawings and description of a self-acting safety lamp. 120
- 37 Gödecke, Carl, Gelsenkirchen.—Plans of the Gelsenkirchen furnaces. 12

AUSTRIA.

(South of Nave, Columns 23 to 28.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Imperial & Royal Metallurgy Direction, Idria.—Cinnabar. 100
- 2 Jugoviz, A., Klagenfurt.—Ore and mining products of Karnten. 100
- 3 Chief Mountain & Mining Administration, Pozoritta, Bukovina.—Pyrolusite for aniline pigments for soda factories, German silver ware, and manganese products. 100
- 4 Metallurgy & Mining Administration, Joachimsthal.—Meteoric specimens. 100
- 5 Goldschmidt, Louis A., Dubnik, Hungary.—Unpolished opals. 100
- 6 Nedwied & Son, Schlan, Bohemia.—Red chalk, red-lead pencils. 107

- 7 Saxlehner, Andreas, Budapest.—Hunyadi János mineral water. 107

- 8 Mineral Water Direction, Pullna, near Brüx, Bohemia.—Mineral water. 107

- 9 Loser Bros., Budapest.—Genuine mineral water from the Ofen-Rakocry spring. 107

Metallurgical Products.

- 10 Industry Association in Krain, Laibach.—Iron and steel mountain and mining works. Ferro-manganese and spiegel iron. 111

- 11 Imperial & Royal Metallurgy Direction, Idria.—Quicksilver. 113

SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Minerals, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Neuchatel Asphalte Co. (limited), Travers, Ct. Neuchâtel.—Natural and mastic asphalt. 101

(The minerals illustrating the geological formations traversed by the St. Gothard tunnel are classified in this catalogue, together with the other exhibits of the St. Gothard Railroad Co., under Dept. III., Class 332.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products.

- 3 Bürgin Bros., Schaffhausen.—Phosphate of bronze, different compositions, with strength and fracture tests. 114

BELGIUM.

(North of Nave, Columns 54 to 59.)

Minerals, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Bleyberg es Montzen Joint Stock Co., Montzen, Province of Liège.—Zinc and lead ores. 100
- 2 Vincent Son, Basècles (Hainaut).—Samples of Basècles black marble pavements. 102
- 2a Sacquelen, F., Basècles near Tournai (Hainaut).—Specimens of Basècles blue and gray stone. 102
- 3 Ville de Spa (Communal Administration).—Trophy furniture, showing views of the city and environs, plans of mineral water-works, samples of these waters, articles of export, etc. The painting of this furniture was executed by Messrs. Boland, Chas., Bronfort, H., Crahey, senior, G. I., Debrus, Alexandre, Debrus, Alexis, Krins, E., Marcette, Henri, and Reigier, L. 107
- 7 Paris, Isaac Joseph, Marchiennes, near Charleroi.—Iron riveted beams for ship-building. 111
- 8 Charleroi Iron Manufacturing Joint Stock Co., Marchienne-au-Pont, near Charleroi.—Iron for building, etc. 111
- 9 Providence Forge Joint Stock Co., Marchienne-au-Pont, near Charleroi.—Iron for building, iron wheels without welding. 111
- 10 Forge and Rolling Mill Joint Stock Co., Régissa, near Huy.—Polished and unpolished sheet iron by wood and coke. 111
- 11 Angleur Steel Manufacturing Co., F. de Rossius, Pastor & Co., Renory, near Liège.—Bessemer cast steel products, rails, tires, axles, forge pieces, and rolled bars. 111

Metallurgical Products.

- 4 Bonehill Bros., L'Esperance High Furnace Forge Foundry, Marchienne-au-Pont, near Charleroi.—Architectural iron. 111
- 5 Constant, Emile, Monceau-sur-Sambre, near Charleroi.—Patterns of building iron spring and web iron. 111
- 6 Mabille, Valère, Mariemont (Hainaut).—Manufactured iron, Kind Chaudron shaft-sinking apparatus. 111
- 12 Jemmapes Forge Foundry & Rolling Mill Co., V. Demerbe & Co., Jemmapes (Hainaut).—Broken bar-banded iron, tramway rails, system of tramway rails on cast iron sleepers. 111
- 13 Bivort, Raymond, Henri, Arbre, Province of Namur.—Kettles and copper wire. 112
- 14 Bleyberg es Montzen Joint Stock Co., Montzen, near Verviers.—Prepared zinc and lead ore, potters' ore (pure galena) for glazing, pig lead for rolling mill, white lead and crystals, silver ore, block zinc for rolling, galvanizing, etc. 113

NETHERLANDS.

(North of Nave, Columns 60 to 65.)

Stone.

Minerals, Ores, Stone, Mining Products.

- 1 Onderwater, H. F., Dordrecht.—Stones for pavement. 102
- 2 Van Verschuur & Van der Voort, Amsterdam.—Unpolished stones. 102
- 3 Borst & Roggenkamp, Delfzijl.—Portland cement stones, lithographic stones, oilstones, whetstones, grindstones, polishing material, and sand quartz: garnets, raw topazes, diamonds, tripoli, and corundum. 106

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SWEDEN.

(North of Nave, Columns 6 to 11.)

Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.	
1 Adelsvärd, Baron Th., Atvidaberg.—Copper ore.	100
2 Bofors Stock Co., Gullspang, Bofors.—Iron ores.	100
3 Berg, Axel, Warby, Stockholm.—Iron ores.	100
4 Berg, Gottfried, Warby, Stockholm.—Zinc, galena, and nickel ores, pyrites.	100
5 Fagersta Iron & Steel Works, Westanfors.	
a Iron ores.	100
b Limestone.	103
6a Swedish Iron Masters' Association, Stockholm.	
a Collection of minerals.	100
b Maps and drawings.	335
7 Avesta Garpenbergs Stock Co., Avesta.—Iron ores.	100
8 Björnebergs Iron & Steel Works, Björneberg.—Iron ores.	100
9 Degerfors Stock Co., Degerfors.—Iron ores.	100
10 Ekman, Carl, Finspong.—Iron ores.	100
11 Hermansson, C. F., Count von, Ferna.—Iron ores.	100
12 Hofors & Hammarby Iron Works, Gefle.—Iron ores.	100
13 Larsbo Norn Stock Co., Kafalla.—Iron ores.	100
14 Laxa Iron Works Co., Laxa.—Iron ores.	100
15 Lesjöfors Iron & Steel Co., Langbanshyttan.	
a Iron ores.	100
b Hausmannite and limestone.	103
16 Lindberg, Lars, Kohlsva.—Iron ores.	100
17 Löfvenskiöld, Salomon, Nissafors, Jönköping.—Iron ores.	100
18 Ramnäs Iron Works Co., Ramnäs.—Iron ores.	100
19 Rettig, C. A., Kilafors, Gefle.—Iron ores.	100
20 Schisshytte-Molnebo Iron Works, Morgongäva.—Iron ores, krebellite, linc-ores, and galena.	100
21 Stockenström, Axel von, Aker, Mariefred.—Iron ores.	100
22 Stora Kopparbergs Bergslag, Stockholm.—Iron ores.	100
23 Sundström, J. O., Charlottenberg.—Iron ores.	100
24 New Gellivara Company (limited), Lulea.—Iron ores.	100
24 Osterby & Strömbacka Iron Works, Osterby.—Iron ores.	
25 Uddeholm Company, Rada.—Iron ores.	100
26 Larsson, P. M., Löa, Rausa.—Iron ores.	100
27 Sanóvikens Stock Co., Gefle.—Iron ores.	100
28 Schough, Robert, Lulea.—Iron and copper ores.	100
29 Geological Survey of Sweden, Stockholm.—Geological collections.	100
30 Höganäs Coal Mining Co., Höganäs.	
a Mineral coal.	101
b Fire clay, fire brick.	104
31 Samuelson, S. H., Föskfors, Rada.—Peat.	101
32 Westerlund, A. F., Nybro, Kalmar.—Peat.	101
33 Berg, Gottfried, Wärby, Stockholm.—Porphyry, serpentine, and marble.	102
34 Klintberg, J. W., Wisby.—Marble table slabs, jewelry, etc.	102
35 Kullgrens, C. A., Widow, Uddevalla.—Articles of polished granite.	102
36 New Marble Works, Norrköping.—Manufactured marble.	102
37 Scanian Cement Co., Malmö.—Portland cement, raw materials and products.	103
38 Rörstrand Stock Co., Stockholm.—Feldspar.	104
39 Gottland Grindstone Co., Burgsvik.—Grindstones.	104
39a Karlson, Gust & Martin, Lugnas.—Grindstone.	106
40 Berg, Gottfried, Warby, Stockholm.	
a Graphite.	105
b Grindstones.	106
c Vivianite.	107
41 Berg, Chr. Lud., Eriksberg, Stockholm.—Mineral waters.	107
42 Mineral Water Stock Co., Stockholm.—Mineral waters.	107
Metallurgical Products.	
43 Bofors Stock Co., Gullspang, Bofors.—Pig iron, blooms, bar iron, wire rods, and iron plate.	111
43a Ramnäs Stock Co., Ramnäs.—Pig and bar iron; slag.	111
44 Fagersta Stock Co., Westanfors.—Pig iron, Bessemer steel ingots, bars, plates, etc.; steel samples, showing the strength of the steel.	111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48.

Metallurgical Products.

- 45 Schisshyttan-Molnebo Manufacturing Co., Morgongäva.—Spiegeleisen. 111
 46 Göteborgs Mechanical Works Stock Co., Göteborg.—Crown of a flue. 111
 47 Laxa Iron Works, Laxa.—Pig iron, blooms, and bar iron. 111

COLLECTIVE EXHIBIT OF IRON MANUFACTURERS, STOCKHOLM.

- 48 Ankarsrum Works, Ankarsrum.—Pig iron, blooms, iron bars, wire rods, and railway crossings. 111
 49 Avesta Garpenberg Stock Co., Avesta.—Pig iron, blooms, and bar iron. 111
 50 Björneborgs Iron & Steel Works, Björneborg.—Pig iron, Bessemer steel ingots, and manufactured Bessemer steel. 111
 51 Degerfors Stock Co., Degerfors, Wermland.—Pig iron, blooms, wire rods, and plate. 111
 52 Ekman, Carl, Finspong.—Pig iron for guns, malleable blooms, and bar iron. 111
 53 Gysinge Iron Works, Gysinge.—Iron in the pig and bars, with specimens of slag. 111
 54 Hermansson, C. F., Count von, Ferna, Bernshammar.—Pig iron, spiegeleisen, and bar iron. 111
 55 Hofors & Hammarby, Hammarby, Storvik, Gefle.—Pig iron, blooms, and bars, with specimens of slag. 111
 56 Larsbo, Norna, Stock Co., Kafalla.—Pig, bar, and angle iron; blooms. 111
 57 Lesjöfors Iron & Steel Co., Filipstad.—Pig iron, ingots of Bessemer and Martin steel, bars, wires, and wire rope of the same material. 111
 58 Lindberg Lars, Kohlsva.—Pig iron, bar iron, and wire rods. 111
 59 Löfvenskiöld, Salomon, Nissafors, Jönköping.—Iron in the pig and bars. 111
 60 Rettig, C. A., Kilafors, Söderhamn.—Pig and bar iron. 111
 61 Stockenström, Axel von, Mariefred.—Pig iron for malleable iron. 111
 62 Bergslag Iron Works, Stockholm.—Pig iron, Bessemer ingots, blooms, bar iron, and samples of iron showing the quality. 111
 63 Sundström, J. O., Charlottenberg.—Pig and bar iron; spikes. 111
 64 New Gellivara Company (limited), Lulea.—Pig and bar iron; nails. 111
 65 Osterby & Strömbacka, Dannemora.—Pig iron, Bessemer steel ingots and bars, blister steel, crucible cast steel, and bar iron. 111
 66 Surahammars Iron Co., Surahammar.—Iron plate, puddled iron, and steel bars, railway wagon wheels and axles. 111
 67 Uddeholms Stock Co. (limited), Rada.—Pig iron, ingots of Bessemer and Martin steel, and iron in bars, springs, etc. 111
 68 Larsson, P. M., Löa, Rällsa.—Samples of pig iron. 111
 69 Motala Mechanical Co., Motala.—Iron and steel, in bars, plates, and sheets, with products of working. 111
 70 Sandvikens Iron Works (limited), Sandviken.—Pig iron, Bessemer steel ingots, forgings for engines, steamers, etc. 111
 71 Adelswärd, Baron, Th., Atvidaberg.—Copper in ingots, with specimens illustrating its various stages of production. 112
 72 Skultuna Stock Co., Westeras.
 a Copper, with products of working. 112
 b Brass in different stages of production. 114
 (For rails, railway and wagon wheels, tires, axles, etc., see Class 573, Machinery Hall.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NORWAY.

(North of Nave, Columns 4 to 7.)

Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Geological Survey of Southern Norway, Director Th. Kierulf, Christiania.
 - a Stones, eruptive rocks, leading strata, constituents of coarse granite dykes. 100
 - b Manuscript maps, natural sections, generalized representations, printed maps. 335
- 2 Fasmer, I. H., & Son, Bergen.—Feldspar. 100
- 3 Hinderager Mining Co., Bergen.—Copper ore, pyrites. 100
- 4 Hoyem, Andr., Bergen.—Titanium iron ore. 100
- 5 Kongsberg Silver Mines, Kongsberg.—Ores, crystals. 100
- 5a Dahll, J., Krageró.—Apatite ore. 100
- 6 Bamble Nickel Mines, Johan Dahll, Krageró.—Samples of nickel ores, with specimens illustrative of the melting process. 100
- 7 Glorud Nickel Co., F. H. Frolich & Son, Christiania.—Nickel ores. 100
- 7a Geological Survey of Southern Norway, Assistant Geologists W. Brügger and H. Reusch, Christiania.
 - a Newly-discovered crystals. 100
 - b Contents of giant-kettles, spiral marked interior grinding-stones. 106

- 7b Ringerige's Nickel Works.—Nickel ores, with rocks and specimens of the smelting process. 100
- 7c Rom Nickel Works.—Nickel ores, with rocks and specimens of the smelting process. 100
- 8 Luttensee, Georg, Christiania.—Quarry stone for street pavement and curbstones. 102
- 9 Moestue & Co., Thv., Christiania.—Slates for tables, roofs, and floors, from Slidre quarries. 102
- 10 Pettersen, Karl, Tromsø.—Granite, labbro and other massives, raw and polished. 102
- 11 Frolich & Son, F. H., Christiania.—Collection of Norwegian apatite ores. 103
- 12 Birch, F., Selboe.—Millstones. 106
- 14 Christiania Millstones Manufacturing Co., Christiania.—Millstones. 106
- 15 Lönseth, Fred., Christiania.—Millstones from Sælbo, flint millstones. 106

Metallurgical Products.

- 16 Kongsberg Silver Mines, Kongsberg.—Silver in bars and granulated silver. 110
- 17 Cathrineholms Iron Works & Foundry, Fredrikshald.
 - a Stoves and other wrought iron. 222
 - b Anchors, chains. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ITALY.

(North of Nave, Columns 1 to 5.)

Minerals, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Tagliavia, Francesco, & Co., Messina.—Collection of minerals. 100
- 2 Fontana Brothers, Luserna, Turin.—Flagstones. 102
- 3 Tassi, Peter, Leghorn.—Yellow marble and alabaster. 102
- 4 Chamber of Commerce & Arts, Sienna.—Marble and alabaster stone. 102
- 5 Stock Company for Manufacturing Bricks, Poggio, Emilia.—Cement, limestone. 103
- 6 Crispo, Moncada Carlo, Catania.—Limestone. 103
- 7 Maccagnani, Ulisse, Bologna.—Aromatic earth of Cattù. 104
- 8 Bolari & Yellow Earth Co., Sienna.—Bolari and yellow earth, earth for coloring. 104
- 9 Furse Bros., & Co., Rome.—Bolari earth of Sienna. 104
- 10 Molino, Luigi, Genoa.—Lithographic stone. 106
- 11 Scammano, Cav. Michele, Catania.—Cedrats. 107

- 12 Birindelli, Carlo, Florence.—Colalli water. 107
- 13 Spedalieri, Ba Felice, Catania.—Sulphur. 107
- 14 Aristide, Count, Castrocaro.—Mineral waters. 107
- 15 Romano, Gaetano, Palermo.—Sulphur. 107
- 16 Scavo Vita Brothers, Catania.—Sulphur. 107
- 17 Dily, Edoardo, Catania.—Sulphur. 107
- 18 Ardizzone, Francesco, Catania.—Sulphur. 107
- 19 Pennini, Baron of Floristallo, Catania.—Sulphur. 107
- 20 Cesena Sulphur Co. (limited), Cesena.—Raw and refined sulphur. 107
- 21 Bartolini dott Cesare, Sienna.—Fossil flour. 107

Metallurgical Products.

- 22 Fornara, Gio., & Co., Turin.—Wire. 111
- 23 Ponsard & Gigli, Florence.—Iron, manganese. 111

BRAZIL.

(North of Nave, Columns 58 to 61.)

Minerals, Stone.

Minerals, Ores, Stone, Mining Products.

- 1 Province of Paraná.
 - a Iron ores. 100
 - b Clay, argil, and schist. 104
 - c Alkaline waters. 107
- 2 Province of San Paulo.—Iron ores. 100
- 3 Ypanema Iron Works.—Iron ores. 100
- 4 Cunha Bettencourt, M. J. da.—Minerals. 100
- 5 Gorceix, H.—Rocks and minerals. 100

6 Commission General for the National Exhibition.

- a Ores. 100
- b Coal. 101
- c Marbles. 102
- d Clay, argil, and schist. 105
- e Minerals, showing gold and diamond formations. 106

7 National Museum.

- a Minerals. 100
- b Coal. 101
- c Marbles. 102
- d Gems. 106

For classes of exhibits, indicated by number at end of entries, see Classification, pp. 27-45.

Oils, Blacking, Boots and Shoes.

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ARGENTINE REPUBLIC.

(Nave to South Avenue, Columns 2 to 5.)

Minerals, Ores, Stone.

Minerals, Ores, Stone, Mining Products.	
1 Raymond, Hipolito, Province of Mendoza.—Collection of minerals.	100
2 Provincial Commission, Province of Mendoza.—Collection of minerals.	100
3 Lemos, Abraham, Province of Mendoza.—Minerals for paints.	100
4 Treloar, William A., Province of La Rioja.—Collection of minerals.	100
5 Almonacid & Parchappe, Province of La Rioja.—Collection of minerals.	100
6 Illanes, Manuel I., Province of La Rioja.—Minerals of Cerro de Vinchina.	100
7 Bascuñan, Francisco, Province of La Rioja.—Minerals.	100
8 Provincial Commission, Province of La Rioja.	100
<i>a</i> Minerals.	100
<i>b</i> Lime and common gypsum.	103
<i>c</i> White chalk and specimens of colored clay used in the manufacture of pottery and paints; colored chalk.	104
9 Gelos, Martin, Province of La Rioja.	100
<i>a</i> Minerals of Olta.	100
<i>b</i> Calcined lime; gypsum.	103
<i>c</i> Chalk.	104
<i>d</i> Whetstones of "La Torre," in their native state; flint.	106
10 Vega, Daniel de la, Province of La Rioja.—A petrification.	100
11 Schröder, Theodore, Province of La Rioja.—Copper ore.	100
12 Gifford, Senor, Province of La Rioja.—Silver ore.	100
12 <i>a</i> Bevan, Eduardo A., Province of La Rioja.—Ores.	100
13 Aguilar, Francisco D., Province of San Juan.	100
<i>a</i> Minerals.	100
<i>b</i> Mineral waters.	107
14 Government of the Province of San Juan.—Collection of minerals.	100
15 Provincial Commission, Province of San Luis.	100
<i>a</i> Collection of minerals.	100
<i>b</i> Stone pestle used by the Indians to grind corn and other grains; stone pan made by Indians, etc.	102
16 Metzler, A., Province of Catamarca.—Minerals.	100
17 Romay, Gabriel, Province of Catamarca.—Iron and antimony ores.	100
17 <i>a</i> Zorilla, Benjamin, Province of Salta.—Silver ore.	100
18 Provincial Sub-commission of Tinogasta, Province of Catamarca.—Ores of iron, lead, copper, silver, etc.	100
19 Galindez, Clásico, Province of Catamarca.—Silver and copper ore.	100
20 Villafañe, Tristan, Province of Catamarca.—Silver-bearing galena.	100
20 <i>a</i> Bedoya, Segundo, Province of Salta.—Silver ore.	100
21 Resoagli, Luis, Province of Corrientes.—Quartz, flint, agate, etc.	100
22 Mansilla, Manuel, Province of Corrientes.—Quartz, agate, copper ore, and mica.	100
23 Galarraga, E. G. de, Province of Corrientes.—Crystal rock.	100
23 <i>a</i> Tula, Nabor, Province of Catamarca.—Copper ore from the Cerro Negro.	100
24 Sicard, Juana G. de, Province of Corrientes.—Horn-shaped stone.	100
25 Porta, Felix, Province of Corrientes.—Agglomeration of small stones.	100
26 Acosta de Quirolo, Josefa, Province of Corrientes.—Crystal rock.	100
27 Cuña, Americo, Province of Corrientes.—Agate.	100
27 <i>a</i> Molina & Carranza, Province of Catamarca.—Ore from the Rosario mine.	100
28 Cabral y Melo, José Maria, Province of Corrientes.—Crystal rock and flint.	100
28 <i>a</i> Salcedo, Uladislav M., Province of Catamarca.—Copper and silver ore.	100
29 Pujol, Nicanor, Province of Corrientes.—Iron ore.	100
30 Córdoba University, Province of Córdoba.—Collection of minerals.	100
30 <i>a</i> Muro, Froilan, Province of Catamarca.—Iron and copper ore, copperas, and alum.	100
31 Fragneiro, José M., Province of Córdoba.—Lead containing silver.	100
32 Provincial Commission, Province of Córdoba.	100
<i>a</i> Lead containing silver, gypsum, various minerals.	100
<i>b</i> Marble.	102
<i>c</i> Whetstones.	106
33 Vasquez, Lucrecio, Province of Córdoba.—Emeralds; round-shaped stone made by Indians.	100
34 MacDowell, N., Province of Córdoba.—Minerals.	100
35 Olmos, José V., Province of Córdoba.—Minerals.	100
36 Provincial Commission, Province of Salta.	100
<i>a</i> Galena, silver, and iron ores.	100
<i>b</i> Wrought stone for table top.	102
<i>c</i> Sulphate of lime.	104
<i>d</i> Kaolin.	104

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

- 37 Echevarria, Cecillo, Province of Santa Fe. — Minerals; quartz and agates of Alto Uruguay. 100
- 38 Rap, Eugenio, Province of Tucuman. — Collection of minerals. 100
- 39 Government of the Province of Jujui. — Silver ore from Tilcara. 100
- 40 Sub-commission of the Department of Diamante, Province of Entre Rios. —
 a Stones found on the shores of the Plata y Uruguay. 100
 b Hydraulic cement stones and cement, lime, artificial stone, petrified wood, etc. 103
- 40a Provincial Commission, Province of Catamarca. —
 a Quartz, garnets, manganese, etc. 100
 b Coal. 101
 c Soapstone from Ancasti. 102
 d Water-lime, gypsum. 103
 e Colored clay, soapstone in powder, kaolin, etc. 104
 f Mineral waters. 107
- 40b Elordi, Louis, Province of Buenos Ayres. — Copper ore from Patagones. 100
- 41 Arguello, David, Province of Córdoba. —
 a Silver ore. 100
 b Anthracite coal. 101
- 42 Galvan, Federico, Province of La Rioja. — Coal from Tumbillos. 101
- 43 Roman, Gabriel, Province of Catamarca. — Coal. 101
- 44 Valdes, Emiliano, & Cipriano, Province of Buenos Ayres. —
 a Colored and other stones from Tandil. 102
 b Black and white vegetable clay from Balcarce. 104
 c Sand and whetstones. 106
- 45 Olmos, José V. Province of Córdoba. — White marble. 102
- 46 Salas, Manuel M., Province of Corrientes. — Marble and crystallized stones. 102
- 47 Santos, Francisco A., de los, Province of Corrientes. — Hollow unpolished stone. 102
- 48 Hurley, Tomás, Province of Catamarca. — Granites; copper and black bronzes; antique pieces of stone discovered in the abandoned mine of Ortiz. 102
- 49 Provincial Commission, Province of Santiago del Estero. —
 a Dressed stones from the Sierra de Guayaican. 102
 b Crystallized and common gypsum. 103
 c Colored clay and saltpetre. 104
 d Mineral and sarsaparilla waters. 107
- 50 Provincial Commission, Province of San Juan. — Building stone. 102
- 51 Avellaneda, Nicolas, Province of Córdoba. — Marble. 102
- 52 Segura, Rufino, Province of Catamarca. — Soapstone, flagstone. 102
- 53 Sub-commission of Andagala, Province of Catamarca. — Soapstone from Belen. 102
- 54 Riso, Isidoro, Province of Catamarca. —
 a Soapstone. 102
 b Water lime. 103
- 55 Herrera, Nicolas, Province of Catamarca. — Slate. 102
- 56 Cornejo, Melchora, T., Province of Salta. —
 a Carbonate of lime. 103
 b Mineral waters. 107
- 57 Saravia, Pablo, Province of Salta. — Sulphate of lime. 103
- 58 Fornasari, R., & Facino, H., Province of Entre Rios. — Hydraulic cement, artificial stones. 103
- 59 Commission of Paraná, Province of Entre Rios. —
 a Paving-stones, limestones, lime, sulphate of lime, petrified oyster-shells, etc. 103
 b Clay, fine sand, calcareous clay, containing gold and silver. 104
 c Tripoli. 106
- 60 Garlivi, N. Province of Entre Rios. — Artificial stone. 103
- 61 Peretti, Santiago, Province of Salta. — Dressed stone and carbonate of lime. 103
- 63 Solá, Ramon, Province of Entre Rios. — Gypsum. 103
- 64 Justice of the Peace of Ensenada, Province of Buenos Ayres. — Lime made from shells. 103
- 65 Pedruncini, Juan, Province of Buenos Ayres. — Shell-lime. 103
- 66 Valdes, Nicasio, Province of Buenos Ayres. —
 a Lime from Balcarce. 103
 b Red clay. 104
- 67 Iñiguez, Manuel A., Province of Buenos Ayres. — Limestone from Tandil. 103
- 68 Commission of Water Works, Province of Buenos Ayres. —
 a Lime-shells, calcareous stones, raw and burnt cement, cement in shape of bricks. 103
 b Clay. 104
- 69 Welsh, Miguel, Province of Buenos Ayres. — Limestone, quicklime, slaked lime. 103
- 70 Caetani, Vicente, Province of Buenos Ayres. — Artificial marble. 103
- 71 Sandrot, José, Province of Buenos Ayres. — Artificial stones. 103
- 72 Justice of the Peace of Patagones, Province of Buenos Ayres. — Gypsum, etc. 103
- 73 Ibañez, P., Province of Catamarca. — Stalagmitical lime. 103
- 74 Provincial Commission, Province of Tucuman. —
 a Black yellow and white limestone, common gypsum. 103
 b White clay. 104
- 75 Paroni, Andrés, Province of Santa Fe. — Hydraulic cement. 103
- 76 Provincial Commission, Province of Corrientes. — Calcareous stones from Itati. 103
- 77 Aguilar Francisco D., Province of San Juan. — Hydraulic lime. 103
- 78 Gache, Manuel, Province of Buenos Ayres. — Gypsum from Rio Salado. 103
- 78a Careno, Nicholas, Province of Salta. — Kaolin, white clay, and chalk. 104
- 79 Santa Cruz, Simon de, Province of Entre Rios. — Sand from Ibicui. 104
- 79a Tamayo, Sidney, Province of Salta. — White clays. 104
- 80 Arias, Hilarion, Province of Salta. — Sulphate of lime. 104
- 81 Lopez, Feliciano, Province of Corrientes. — Clay for the manufacture of crockery, tiles, and bricks, yellow stone for coloring and paint. 104

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

Minerals, Stone, Metallurgical Products.

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|---|---|
| <p>82 Sub-commission of Bella Vista, Province of Corrientes.—Stone containing red and yellow coloring substances; clays. 104</p> <p>84 Calderon, Pedro, Province of Entre Rios.—Vegetable clay. 104</p> <p>85 Fontes, V. M., & Negra, S., Province of Entre Rios.—Clay for whitewashing. 104</p> <p>86 Bazan, Abel, Province of La Rioja.—Refractory bricks. 104</p> <p>87 Barros, José, Province of La Rioja.—Refractory bricks. 104</p> <p>89 Justice of the Peace of Zarate, Province of Buenos Ayres.—Black and ferruginous clays. 104</p> <p>90 Lobo, Tristan, Province of Catamarca.—Chalk clay, tiles, and bricks. 104</p> <p>91 Lafone Quevedo, Samuel A., Province of Catamarca.
 <i>a</i> White clay for bricks; refractory bricks. 104
 <i>b</i> Hard fossil-ground quartz. 106</p> <p>92 Caballero, Eugenio, Province of Salta.—Graphite. 105</p> <p>93 Medina, Luis R., Province of Catamarca.—Whetstones from Concepcion. 106</p> | <p>94 Perez, Luisa, Province of La Rioja.—Mineral water. 107</p> <p>96 Patron Bros., Province of Salta.—Mineral waters. 107</p> <p>97 Schmidt, Antonio, Province of San Luis.—Mineral waters. 107</p> <p>98 Escobar, Juan de D., Province of San Luis.—White-stone water. 107</p> <p>99 Sub-commission of the Colony of San Carlos, Province of Santa Fé.—Vegetable clay. 107</p> <p>100 Otamendi, Carlos, Province of Buenos Ayres.—Shells from the coast of Balcarce. 107</p> |
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Metallurgical Products.

- 101 Gainza, Martín de, Province of Buenos Ayres.—Gold from Patagones. 110
- 102 Nell, Federico, Province of San Luis.—Gold and washed gold. 110
- 103 Bertram & Co., Province of San Luis.—Gold from the Descubridora mine. 110
- 104 Provincial Commission, Province of San Luis.—Gold from La Carolina mine. 110
- 105 Lafone Quevedo, Samuel A., Province of Catamarca.—Copper ingots. 111

CHILI.

(North of Nave, Columns 3 to 5.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Government of Chili.—Silver and copper ores, and other minerals. 100
- 2 Sere, Edouard, Santiago.—Minerals. 100
- 3 Escobar, E., Copiapo.—Gold, silver, and copper ores, and other valuable minerals. 100
- 4 Urmenta & Errazuriz, Santiago.—Copper ores from Tamagua. 100
- 5 Escudero, R., Santiago.—Stone. 102

- 6 Sanchez, Francisco, Talca.—Carved stone from Talca. 102

- 7 Cadiz, Jose, Gabriel, Santiago.—
a Artificial marble balustrade, mantel, pilasters, and columns. 103
b Natural and powdered gypsum. 107

Metallurgical Products.

- 8 Government of Chili.—Copper in ingots. 112

Mining Engineering.

- 9 Errazuriz, Maximiano, Santiago.—Strata of coal mine in Lebu. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

MEXICO.

*(North of Nave, Columns 64 to 67.)***Minerals, Ores, Stone, Metallurgical Products.****Minerals, Ores, Stone, Mining Products.**

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| 1 Ochva, Gaspen, Sanchez, City of Mexico.—Sulphur from the Volcano Popocatepetl. 100 | 14 Quebradella Company, Zacatecas City.—Minerals. 100 |
| 2 Mexican Mining Society, City of Mexico.—Minerals and rocks. 100 | 15 Mala Noche Company, Zacatecas City.—Minerals. 100 |
| 3 School of Engineers, City of Mexico.—Minerals. 100 | 16 Ponce, Juan, Zacatecas City.—Minerals. 100 |
| 4 National Museum, City of Mexico.—Minerals and rocks. 100 | 17 Romirez, S. & C. J., City of Mexico.—Rocks. 100 |
| 5 Barcena, Mariano, City of Mexico.—Livingstonite. 100 | 18 Barcena, Manimo, City of Mexico.—Fossils, rocks, and geological maps. 100 |
| 6 Folsa, M. José, Pregones, State of Guerrero.—Quicksilver ores. 100 | 19 Farrugia, Federico, State of Hidalgo.—Minerals and metallurgical products. 100 |
| 7 Natural History Society, City of Mexico.—Minerals. 100 | 20 Zenteno, Estevan, Fempoal, Vera Cruz.—Coal. 101 |
| 8 Government of the State of Durango, Durango City.—Iron ores. 100 | 21 Gutierrez, Julian, & Co., City of Mexico.—Marble from the State of Puebla. 102 |
| 9 Muller, N., Chihuahua City.—Metallurgical iron. 100 | 22 Bocanegra, S., State of San Luis Potosi.—Marbles. 102 |
| 9 Soto, Mayor C., State of Michoacan.—Minerals from the mineral district of Angangueo. 100 | 23 State Government of Hidalgo.—Argils. 104 |
| 10 Rull, Miguel, City of Mexico.—Minerals. 100 | |
| 10 Corcuera, Manuel, State of Jalisco.—Iron ores. 100 | |
| 11 Real Del Monte Company.—Minerals. 100 | |
| 12 State Government of Oaxaca.—Minerals. 100 | |
| 13 San Rafael Company.—Minerals from Zacatecas City. 100 | |

Metallurgical Products.

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| 24 Bermegillo, Pio, State of Michoacan.—Cake of silver from Argangueo. 110 |
| 25 Encarnacion Company.—Wrought and cast iron. 111 |
| 26 Guadalupe Company.—Wrought and cast iron. 111 |
| 27 Esperon, José, Oaxaca City.—Wrought and cast iron. 111 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

(South of Nave, Columns 16 to 18.)

Minerals, Ores, Stone.

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| <p>1 Arrivillaga, Agustin, Fondon, Province of Almería.—Galena. 100</p> <p>2 Fernandez, Diego, Cuevas, Province of Almería.—Argentiferous galena and barrytes. 100</p> <p>3 Campos, Francisco, Fondon, Province of Almería.—Laminated galena. 100</p> <p>4 Montoro, Francisco, Vera, Province of Almería.—Laminated galena. 100</p> <p>5 Bachiller, Guillermo, Cuevas, Province of Almería.—Argentiferous galena with iron pyrites. 100</p> <p>6 Cerezuelo, Gonzalo, Berja, Province of Almería.—Laminated galena. 100</p> <p>7 Gonzalez, Gabriel, Laujar, Province of Almería.—Laminated galena. 100</p> <p>8 Terriza, José, Berja, Province of Almería.—Laminated galena. 100</p> <p>9 Rapalo, José, Almería, Province of Almería.—Galena. 100</p> <p>10 Olmo, José del, Berja, Province of Almería.—Galena, stained with minium. 100</p> <p>11 Cavanillas, Juan, Cuevas, Province of Almería.—Argentiferous galena. 100</p> <p>12 Corrello, Rafael, Almosita, Province of Almería.—Galena. 100</p> <p>13 Abad, Jerónimo, Nijar, Province of Almería.—Pyrolusite. 100</p> <p>14 Ayala, Antonio, Lucar, Province of Almería.—Steatite. 100</p> <p>15 Padilla, Francisco, Nijar, Province of Almería.—Calamine and carbonate of lead. 100</p> <p>16 Blanco, Prudencio, Alcolea, Province of Almería.—Gray calamine. 100</p> <p>17 Duran, Estéban, Almería.—Oxide of copper and calamine. 100</p> <p>18 Ramirez, Luis, Lucar, Province of Almería.—Black oxide of cobalt. 100</p> <p>19 Rio, Eustaquio, Huercal-Overa, Province of Almería.—Arseniate of cobalt. 100</p> <p>20 Real, José, Almería.—Carbonate of lead. 100</p> <p>21 Gomez, Crisanto de, Nijar, Province of Almería.—Carbonate of lead. 100</p> <p>22 Trell, Miguel del, Berja, Province of Almería.—Carbonate of calamine. 100</p> <p>23 Daza y Ruiz, Francisco, Purchena, Province of Almería.—Iron ore. 100</p> <p>23^a Daza y Ruiz, Seron, Province of Almería.—Iron ore. 100</p> <p>23^b Daza y Ruiz, Lucar, Province of Almería.—Cinnabar ore and cobalt. 100</p> <p>24 Vivas Asqueros, Antonio, Pechina, Province of Almería.—Iron ore. 100</p> | <p>25 Linares, Clemente, Albánchez, Province of Almería.—Iron ore. 100</p> <p>26 Villalobos Brothers, Berja, Province of Almería.—Sulphate of lead. 100</p> <p>27 Hernandez, Secundino, Feria, Province of Badajoz.—Iron ores. 100</p> <p>28 Successful Society, Alconchel Chelos, Province of Badajoz.—Chakopirita. 100</p> <p>29 Lafite & Co., Castuera, Province of Badajoz.—Galena and argentiferous lead. 100</p> <p>30 Mateos y Morato, Santiago, Azuaga, Province of Badajoz.—Sulphate of lead. 100</p> <p>31 Grappin, G. de, Llerena, Province of Badajoz.—Galena. 100</p> <p>31^a Grappin, G. de, Malpartida, Province of Cáceres.—Phosphate of lime. 100</p> <p>31^b Grappin, G. de, Aldeacentenera, Province of Cáceres.—Copper. 100</p> <p>31^c Grappin, G. de, various towns of the province of Cáceres.—Collection of ores. 100</p> <p>32 Martinez de Santa Maria, Juan, Burguillos, Province of Badajoz.—Magnetic iron ore. 100</p> <p>33 Lligé & de Planell, Juan, Gabá y del Figaró, Province of Barcelona.—Iron ore with manganese. 100</p> <p>34 O'Daly, Olimpia Vallcareara, Province of Barcelona.—Magnetic iron. 100</p> <p>35 Anglada & Co., Pontons, Province of Barcelona.—Carbonate of zinc. 100</p> <p>36 Provincial Commission, Atapueca, Province of Burgos.—Stalactites. 100</p> <p>37 Richard & Granducontangne, Riocavado, Province of Burgos.—Hematites. 100</p> <p>37^a Richard & Granducontangne, Huerto-abajo, Province of Burgos.—Hematites. 100</p> <p>37^b Richard & Granducontangne, Monterrubio de la Sierra, Province of Burgos.—Hematites. 100</p> <p>38 Gutierrez, Julian, Olmos de Atapueca, Province of Burgos.—Yellow and red ochre. 100</p> <p>39 Oria, Eugenio, Pancorbo, Province of Burgos.—Oxide of iron. 100</p> <p>40 Corporation of Pineda.—Micaceous iron. 100</p> <p>41 Muñoz Bello, Francisco, Cáceres.—Phosphate of lime. 100</p> <p>42 Gonzalez, Diego Biblano, Cáceres.—Calcareous phosphates. 100</p> <p>43 Rocandio, Jorge, & Sbarby, Manuel, Zarza y Ciclavin, Province of Cáceres.—Calcareous phosphate. 100</p> |
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For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-47

Minerals, Ores.

- 44 Sande Olivares, Gerónimo de, Garro-
billas de Alconetar, Province of Cáceres,
—Copper ore. 100
- 45 Miro Cerdá, various towns of the
Province of Castellón.—Ores. 100
- 46 Provincial Board of Agriculture,
Province of Castellón.—Galena and cala-
mine. 100
- 47 Caminero, José, Ciudad-Real.—
Ores. 100
- 48 Piquet, Alfonso Emilio, Horcajo,
Province of Ciudad-Real.—Ores. 100
- 49 Mines of Almadén, Almadén, Ciu-
dad-Real.—Cinnabar ores and rocks. 100
- 50 Ducloux, Francisco Javier, Province
of Barcelona.—Ores. 100
- 51 Gomez Ruiz, widow & sons of
Gabriel, San Julian del Llot, Province of
Gerona.—Lead ore. 100
- 52 Hisern, Joaquin, Carataunas, Pro-
vince of Granada.—Hematite iron. 100
- 53 Vasquez, Diego, Pitres, Province of
Granada.—Quicksilver ore. 100
- 54 Corps of Mining Engineers, Hien-
delacina, Province of Guadalajara.—
Brittle silver, blue copper, and mala-
chites. 100
- 55 Gracian, Andrés, Huelva.—Sulphur
of argentiferous antimony. 100
- 56 Ibarra, José Maria de, Huelva.—Col-
lection of cuprous-iron pyrites and pro-
ducts. 100
- 57 Vasquez y Lopez, M., Zalamea la
Real, Province of Huelva.—Peroxide of
manganese. 100
- 58 Rieken y Gerdes, George, Mina Bron-
teriza, Huelva.—Sulphur. 100
- 59 Solo, Emilio de, Alosno, Province of
Huelva.—Peroxide of manganese. 100
- 60 Diaz y Gomez de Cadiz, Eduardo,
Valverde del Camino, Province of Huel-
va.—Manganese ore. 100
- 61 Bull & West, Diego, Valverde del
Camino, province of Huelva.—Cuprous
pyrites. 100
- 62 Tharsis Sulphur & Copper Co.
(limited), Alosno, Province of Huelva.—
Ores and slags. 100
- 63 Rio Tinto Co. (limited), Province of
Huelva.—Ores. 100
- 64 La Buena Fé, Society, Linares, Pro-
vince of Jaén.—Laminated galena, etc. 100
- 65 La Familia Society, Linares, Pro-
vince of Jaén.—Laminated galena and ga-
lena in dross. 100
- 66 La Inocencia Mining Society, Guar-
roman, Province of Jaén.—Laminated
galena and galena in dross. 100
- 67 Stolberg & Westfalia, Anonymous
Society, Linares, Province of Jaén.—
Laminated galena and galena in dross. 100
- 68 English, Heirs of Juan Carlos, Li-
nares, Province of Jaén.—Laminated and
ground galena and galena in dross. 100
- 69 Accino y Vasquez de Araujo, En-
rique, Linares, Province of Jaén.—Lami-
nated galena. 100
- 70 Sopwith, Tomás, Linares, Pro-
vince of Jaén.—Laminated galena. 100
- 71 Bonaplata, Eduardo, Bailén, Pro-
vince of Jaén.—Galena. 100
- 72 Figueroa, Ignacio, Linares, Province
of Jaén.—Galena. 100
- 73 Amado Salazar, Enrique, Bailén,
Province of Jaén.—Galena. 100
- 74 Lohnstein, Emilio, Linares, Pro-
vince of Jaén.—Galena. 100
- 75 Arboledas, Martin, Linares, Pro-
vince of Jaén.—Sulphate of lead. 100
- 76 Villanova, José Genaro, Linares,
Province of Jaén.—Earth from a lead
mine, and potter's antimony. 100
- 77 Polo Leoncio, Villafeliz, Province of
Leon.—Iron ore. 100
- 78 Alonso, Casimiro, Leon.—Oxidized
iron ore. 100
- 79 Bertrand, Casimiro, Alins, Lérída.—
Oaelleres, native iron. 100
- 80 Reynante y Cancio, Manuel, Riva-
deo, Lugo.—Ores. 100
- 81 Corps of Mining Engineers, Madrid.
—Ores. 100
- 82 Naranjo y Garza, Felipe, from var-
ious towns of the Province of Madrid.—
Ores. 100
- 83 Mining Engineers, Málaga.—Mala-
chite copper ore. 100
- 83a Mining Engineers, Marbella, Pro-
vince of Málaga.—Magnetic iron. 100
- 83b Mining Engineers, Estepona, Pro-
vince of Málaga.—Magnetic iron. 100
- 83c Mining Engineers, Mijas, Province
of Málaga.—Hydrated iron, galena, and
magnetic iron. 100
- 83d Mining Engineers, Istan, Province
of Málaga.—Magnetic iron. 100
- 83e Mining Engineers, Carratraca,
Province of Málaga.—Hematites. 100
- 83f Mining Engineers, Antequera,
Province of Málaga.—Oligistic iron. 100
- 83g Mining Engineers, Coin, Province
of Málaga.—Hematites. 100
- 83h Mining Engineers, Benahavis,
Province of Málaga.—Sulpho-arsenic
nickel and sulphurous nickel. 100
- 83i Mining Engineers, Benalmadena,
Province of Málaga.—Hydrated iron. 100
- 83j Mining Engineers, Alora, Province
of Málaga.—Nickel. 100
- 83k Mining Engineers, Almogía, Pro-
vince of Málaga.—Malachites and pyrites
of copper. 100
- 83l Mining Engineers, Alhaurin el
Grande, Province of Málaga.—Galena and
carbonate of lead. 100
- 83m Mining Engineers, Colmenar, Pro-
vince of Málaga.—Galena and pyrites of
copper. 100
- 83n Mining Engineers, Nerja, Province
of Málaga.—Galena. 100
- 83o Mining Engineers, Archidona,
Province of Málaga.—Oligistic iron. 100
- 84 Blandin y Carrese, Manuel, Vera,
Province of Navarra.—Iron ores. 100
- 85 Macia & Co., Demétrio, Femeña,
Province of Orense.—Tin ore. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48.

Minerals, Ores, Stone.

- 86 Vila, Francisco, Pentes, Province of Orense.—Tin ore. 100
- 87 Mining District of Oviedo, various towns of the Province of Oviedo.—Ores. 100
- 88 Acebal y Menendez, Benito, Carreño, Province of Oviedo.—Iron ore. 100
- 89 Uria Pinilla, Navia de Luarca, Province of Oviedo.—Iron ores. 100
- 90 National Factory of Trubia, Trubia, Province of Oviedo.—Iron ores. 100
- 91 Diestro y Lastra, Antonio del, Mier, Province of Oviedo.—Ores. 100
- 92 Somoza Piñeiro, Ramon, Merza, Province of Pontevedra.—Magnetic iron. 100
- 93 Mining Society, Salamanca.—Tin ore. 100
- 94 Neeschouurrer Bellesfrod & Co., from various towns and provinces.—Ores. 100
- 95 Mining & Foundry Co. of Santander.—Ores. 100
- 96 Buen Desco Mining Society, Peñalcázar, Province of Soria.—Argentiferous lead ore. 100
- 97 Perez, Bernardo, Peñalcázar, Province of Soria.—Argentiferous lead ore. 100
- 98 Director of the Company of Mines & the Manufactory del Pedroso, Cazalla de la Sierra, Province of Seville.—Iron ores. 100
- 99 Gomez, José María, Vimbodi, Province of Tarragona.—Pyrites and barytes in powder. 100
- 100 Monner, Francisco, Las Borjas, Province of Tarragona.—Oligistic iron. 100
- 101 Britó & Sierra, Camañas, Province of Teruel.—Crystallized manganese ore, pyrolusite. 100
- 102 Maorad, Benito, Camañas, Province of Teruel.—Manganese. 100
- 103 Valdemoro, Juan Francisco, Teruel.—Oxide of iron. 100
- 104 Belles, James, Albarracin, Province of Teruel.—Oxide of iron. 100
- 105 Perez, Francisco, Linares, Province of Teruel.—Calamine. 100
- 106 Diego, Vicente de, Bilbao, Province of Vizcaya.—Iron ores. 100
- 107 Bourson, Miguel, Somorrostro, Province of Vizcaya.—Iron ore. 100
- 108 Bilbao Iron Ore Company (limited), Galdamés, Province of Vizcaya.—Iron ore. 100
- 109 Zabalo, Andrés, Illueca, Zaragoza.—Oligistic iron. 100
- 109a Mouner, Francisco, Reus, Province of Tarragona.—Ores. 100
- 110 Rueda, Manuel, Mesones, Province of Zaragoza.—Oligistic iron. 100
- 111 Boiven y Senty, Adolfo, Maestu, Province of Alava.—Natural rock asphaltum, refined bitumen, pure and dry asphaltum. 101
- 112 Asphaltum Company of Maestu, Vitoria.—Asphaltum. 101
- 113 Mining Union, Calaf, Province of Barcelona.—Lignite. 101
- 114 La Perla Bergadana Mining Society, Pont de Raventi, Province of Barcelona.—Mineral coal. 110
- 115 Gispert y Pujals, Manuel, Barcelona.—Mineral coal. 101
- 116 Oria, Eugenio, Brieua de Juarros, Province of Burgos.—Dry pit-coal. 101
- 117 Juarreña Society, San Adrian de Juarros, Province of Burgos.—Dry pit-coal. 101
- 118 Miró y Cerdá, C., from various towns of the Province of Castellón.—Coal. 101
- 119 Metallurgical Coal-pit Company of Belmez, Peñarroya, Province of Córdoba.—Pit-coal, and coke. 101
- 120 El Veterano Mineral Society, Surroca, Province of Gerona.—Pit-coal and coke; rocks, illustrating the geological composition of the coal districts of Surroca and Ogassa. 101
- 121 Board of Agriculture, Industry, & Commerce, Oviedo.—Coke and mineral coal. 101
- 121a Board of Agriculture, Industry, & Commerce, Mieres, Province of Oviedo.—Coal block, weighing 30 cwt. 101
- 122 Coal-pit Society of Muñon, Muñon, Pola de Lena, Province of Oviedo.—Mineral coal. 101
- 123 National Factory of Trubia, Trubia, Province of Oviedo.—Mineral coal and coke. 101
- 124 Garcia de los Rios, Eduardo, Mieres, Province of Oviedo.—Pit-coal. 101
- 125 Vigon, Braulio, Carrandi, Province of Oviedo.—Anthracite coal. 101
- 126 Mines of Castilla, Barruelo, Province of Palencia.—Pit-coal and coke. 101
- 127 Fernandez Castañeda, Telesforo, Reinos, Province of Santander.—Lignite. 101
- 128 Pereire, Isaac, Villanueva del Rio, Province of Seville.—Coal. 101
- 129 Corps of Mining Engineers, Soria.—Impregnated asphaltum. 101
- 130 Peguero, Andrés, Utrillas, Province of Teruel.—Coal. 101
- 131 Sierra, Francisco, Utrillas, Province of Teruel.—Coal. 101
- 132 Estéban, Cristóbal, Libros, Province of Teruel.—Brimstone. 101
- 133 Fernandez, Francisco, Havana, Island of Cuba.—Asphaltum. 101
- 134 Blanquer Ronda, Mariano, Callosa de Ensarria, Province of Alicante.—Black marble. 102
- 135 Serrano, Cardona & Co., Monóvar, Province of Alicante.—Tubing and pillar, with enclosure. 102
- 136 Jover, Francisco, Almería, Province of Almería.—Construction stones. 102
- 136a Abelló y Boada, Pablo, Sarreal, Province of Tarragona.—Alabaster. 102
- 137 Daza, Francisco, Macael, Province of Almería.—Marble. 102
- 138 Tréll, Miguel del, Berja, Province of Almería.—Marble for construction. 102
- 139 Chief Engineer of Highways, Valdemolinos, Province of Avila.—Granite. 102

For clumps of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Minerals, Stone.

- 140 Estevez, Manuel Benito, Badajoz.
—Slates. 102
- 143 Provincial Commission of Villagajón, Province of Burgos.—Alabaster, marble, calcareous stone, slate, and wheat stones. 102
- 144 Baldiriz, Santiago, Villorobe, Province of Burgos.—Slates. 102
- 145 Richard & Granducontagne, Barbadillo de Herreros, Province of Burgos.—Gravel. 102
- 146 Corporation of Villamartin, Province of Cádiz.—Jasper. 102
- 147 Corporation of Chiclana, Province of Cádiz.—Jasper. 102
- 148 Corporation of Grazales, Province of Cádiz.—Colored marble. 102
- 149 Nuñez, José María, Cádiz.—Collection of marbles and jaspers. 102
- 150 Feo y Hermos, Miguel Alfonso, San Miguel de Abona, Canary Islands.—Flagstone. 102
- 151 Games, Angel, Santa Cruz de Tenerife, Canary Islands.—Rock, lava, and volcanic products. 102
- 152 Society of Friends, Las Palmas, Canary Islands.—Jasper. 102
- 153 Provincial Board of Agriculture, Calig, Province of Castellón.—Marble and calcareous stone. 102
- 154 Corporation of Cabra, Province of Córdoba.—Marbles. 102
- 155 Lopez Seoane, Victor, Ferrol, Province of La Coruña.—Stones and marbles. 102
- 156 Corporation of Portilla de la Sierra, Province of Cuenca.—Marbles. 102
- 157 Corporation of La Cierva, Province of Cuenca.—Marble. 102
- 158 Yañis, Ambrosio, Las Majadas, Province of Cuenca.—Marbles. 102
- 159 Madero, Cirilo, Arcos de la Cantera, Province of Cuenca.—Calcareous stone. 102
- 160 Rubio Perez, Juan, Guejar, Province of Granada.—Serpentine. 102
- 161 Corporation of Fuente Heridos, Province of Huelva.—Marble. 102
- 162 Corporation of Galaroza, Province of Huelva.—Marbles. 102
- 163 Gonzalez Molada, Justo, Alcaudete, Province of Jaén.—Construction materials. 102
- 164 Corporation of Castillo de Locubín, Province of Jaén.—Jasper. 102
- 165 Provincial Institute, Leon.—Marbles and alabasters. 102
- 166 Uteeschouer, Bellefroid, & Co., Unzuilla, Province of Leon.—Marble formed by calcareous fossils. 102
- 167 Institute of Secondary Instruction of Mondónedo, Province of Lugo.—Marbles and slates. 102
- 168 Corps of Mining Engineers, Province of Málaga.—Marbles. 102
- 169 Corporation of Mijas, Province of Málaga.—Marbles. 102
- 170 Corps of Mining Engineers, Province of Murcia.—Marble, grit, construction stone, and alabaster. 102
- 171 Corporation of Pileña, Province of Oviedo.—Marbles. 102
- 172 Corporation of Salas, Province of Oviedo.—Marble. 102
- 173 Corporation of Colunga, Province of Oviedo.—Marble. 102
- 174 Odriozola, Joaquín de, Province of Segovia.—Construction stones. 102
- 175 Corporation of Linares, Province of Segovia.—Calcareous construction stones. 102
- 176 Corporation of Balisa, Province of Segovia.—Granite and siliceous stone. 102
- 177 Corporation of Aragonese, Province of Segovia.—Stone. 102
- 178 Corporation of Moron, Province of Sevilla.—Jasper. 102
- 179 Corporation of Cantalucia, Province of Soria.—Marbles. 102
- 180 Corporation of Espeja, Province of Soria.—Marbles. 102
- 181 Garcia, Cayetano, Espejon, Province of Soria.—Marbles. 102
- 182 Gomez, José María, Sareal, Province of Tarragona.—Alabaster and marble, in powder. 102
- 183 Board of Public Works, Campaspero, Province of Valladolid.—Calcareous stone. 102
- 184 Generès, José, Sarreal, Province of Tarragona.—Alabaster. 102
- 185 Board of Public Works, Villarmentero, Province of Valladolid.—Crystallized gypsum. 102
- 186 Corporation of Ricla, Province of Zaragoza.—Marbles. 102
- 187 Corporation of Calatorao, Province of Zaragoza.—Black marble. 102
- 188 Corporation of Fuentes de Ebro, Province of Zaragoza.—Alabaster. 102
- 189 Boada, Jerónimo, Mataró, Province of Barcelona.—Artificial stone. 102
- 190 Navarro, Antonio, Las Palmas, Canary Islands.—Calcareous stone and powdered lime. 102
- 191 Lledó y Gomez, Cipriano, Cuenca.—White gypsum. 102
- 192 Fernandez, Gervasio, Torrubia de Campo, Province of Cuenca.—Alabastrian gypsum. 102
- 193 Loper, Simon, Torrubia del Campo, Province of Cuenca.—Powdered alabastrian gypsum. 102
- 194 Corporation of Ayamonte, Province of Huelva.—Lime. 102
- 195 District of Mining Engineers, Province of Málaga.—Gypsum. 102
- 196 Corps of Mining Engineers, Province of Murcia.—White and black calcareous stone. 102
- 197 Corporation of Moron, Province of Seville.—Gypsum and lime. 102
- 198 Tomás, Antonio, Reus, Province of Tarragona.—Sulphate of barytes and lime. 102
- 199 Cervera, Luis, Montblanch, Province of Tarragona.—Sulphate of hydrated lime. 102
- 200 Barran, Leoncio, Alcalá de Guadaira, Province of Seville.—Slack, quicklime, limestone, etc. 102
- 201 Clement, Hernandez, Francisco, Cartagena, Province of Valencia.—Artificial stone. 102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 71-85.

Minerals, Stone.

- 302** Giralt, Nicolás, Regla, Cuba.—Lime. 103
303 Benavides, Mariano, La Roda, Province of Albacete.—Magnesian earth. 104
304 Saavedra Ramirez, Alejo, Somotin, Province of Almería.—Silicate of magnesia. 104
305 Daza y Ruiz, Francisco, Somotin, Province of Almería.—Silicate of magnesia. 104
306 Masoliver, Bartolomé, Barcelona.—Chalk and volcanic clay. 104
307 Granducontangne, Richard, Barbadiño de Herreros, Province of Burgos.—Argil. 104
308 Oria, Eugenio, Pancorbo, Province of Burgos.—Bricks. 104
309 Provincial Commissions of various towns, Province of Burgos.—Argil and clay. 104
310 Foundry & Delft Factory of Sargadelos, Cervo, Province of Lugo.—Crude materials for the manufacture of delft. 104
311 Banante, Juan, Chantada, Province of Lugo.—Argil. 104
312 District of Mining Engineers, Marbella, Province of Málaga.—Steatite. 104
313 Provincial Board of Agriculture, Industry, & Commerce, Collera, Province of Oviedo.—Spar. 104
314 Uria & Pinilla, Navia de Laurca, Province of Oviedo.—Refractory stone. 104
315 Factory of Trubia, Trubia, Province of Oviedo.—Argil, silicate, and lime. 104
316 Villar Cagide, Joaquin, Santa Maria de Abades, Province of Pontevedra.—Steatites. 104
317 Matheu, Antonio, Montblanch, Province of Tarragona.—Spanish white. 104
318 Corporation of Pinell, Province of Tarragona.—Refractory earth. 104
319 Corps of Mining Engineers, Zaragoza.—Argil. 104
320 District Mining Engineers, Igua-leja, Province of Málaga.—Graphite. 105
321 Villalonga y Perez, Antonio, Capdepera, Baleares.—Tripoli. 105
322 Corporation of Cabra del Santo Cristo, Province of Jaen.—Whetstones. 106
323 Acebal y Menendez, Benito, Oviedo.—Grindstones. 106
324 Peguero, Andrés, Utrilla, Province of Teruel.—Jet. 106
325 Pedro, Cármen de, La Rambla, Province of Teruel.—Jet. 106
326 Sierra, Francisco, Utrilla, Province of Teruel.—Jet. 106
327 Villaiba, Gregorio, Utrilla, Province of Teruel.—Jet. 106
328 Sanz, Mariano, Patatrubio, Province of Teruel.—Jet. 106
329 Clarós, Pablo, Utrilla, Province of Teruel.—Jet. 106
330 Banquells & Rascon, Francisco, Novelda, Province of Alicante.—Sulphurous mineral water from Salinetas. 107
331 Trell, Miguel del, Berja, Province of Almería.—Gypsum. 107
332 Mejias Moreno, José, Pechina, Province of Almería.—Lamellated gypsum. 107
333 Alonzo Cortés, Manuel, Pozas, Province of Burgos.—Crude and refined salt. 107
334 Puig, Felipe, Miranda, Province of Burgos.—Crude and refined salt. 107
335 Cerezanian Society, Cerezo, Province of Burgos.—Sulphate of soda. 107
336 Constancia Society, Cerezo, Province of Burgos.—Sulphate of soda. 107
337 Riscal de Alegre, Marquis of, Alia, Province of Cáceres.—Clay marl. 107
338 Corporation of Santa-Ella, Province of Córdoba.—Medicinal mineral waters. 107
339 Corporation of Montoro, Province of Córdoba.—Sulphurous water. 107
340 Lopez, José María, Lucena, Province of Córdoba.—Mineral water. 107
341 Marin Manuel, Villaharta, Province of Córdoba.—Mineral water. 107
342 Perafita Gavigola, Francisca, Gerona.—Carbonic water. 107
343 Medinaceli, Duke of, Gerona.—Ferruginous and sulphurous water. 107
344 Garcia, Gabriel, Gerona.—Ferruginous carbonic water. 107
345 Vilaret, José, Gerona.—Carbonic water. 107
346 Darnius, Count of, Gerona.—Ferruginous and sulphurous water. 107
347 Corporation of Marmolejo, Province of Jaen.—Acidulous and carbonic waters with iron. 107
348 Gutierrez Rodriguez, Cayetano, Mogrovejo, Province of Leon.—Mineral waters. 107
349 Borregan del Blanco, Dominga, Mogrovejo, Province of Leon.—Mineral waters. 107
350 Bathing Establishment, Ponferrada, Province of Leon.—Mineral waters. 107
351 Damian Garcia, José, San Adrian de Vegaquemada, Province of Leon.—Mineral and medicinal waters. 107
352 Corporation of Navajun, Province of Logroño.—Mineral waters. 107
353 Diez Brothers, Grávalos, Province of Logroño.—Sulphurous waters. 117
354 Lopez Losada, Antonio, Incio, Province of Lugo.—Ferruginous waters. 107
355 Niera Gayoso, Dositeo, Lugo.—Sulphurous waters. 107
356 Pardo Montero, Ramon, Trasparga, Province of Lugo.—Sulphurous waters. 107
357 Benevolent Societies, of various towns and provinces.—Mineral waters. 107
358 Corporation of Mollina, Province of Málaga.—Mineral waters. 107
359 Corporation of Carratraca, Province of Málaga.—Mineral waters. 107
360 Corporation of Periana, Province of Málaga.—Mineral waters. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

Minerals, Metallurgical Products, Mining Engineering.

- 261 Corporation of Tolox, Province of Málaga.—Waters from Fuente Acuar-gosa. 107
- 262 Provincial Commission, Murcia.—Waters from Archena. 107
- 263 Corporation of Verin, Province of Orense.—Mineral waters. 107
- 264 Corporation of Carballino, Province of Orense.—Thermal medicinal waters. 107
- 265 Gonzalez Alegre, José, Las Caldas, Province of Oviedo.—Thermal waters. 107
- 266 Casariego, Cayetano, Prelo, Province of Oviedo.—Alkaline sulphurous waters. 107
- 266a Casariego, Cayetano, Buyer de Nava, Province of Oviedo.—Ferruginous water. 107
- 267 Cortines, Augustin de, Puente-nausa, Province of Santander.—Sulphurous waters. 107
- 268 Calderon Revuelta, Francisco, Alceda, Province of Santander.—Mineral sulphurous water. 107
- 269 Gutierrez de Ceballos, José, Caldas de Besaya, Province of Santander.—Mineral waters. 107
- 270 Ana Micó, Widow of Ferrandis, Játiva, Province of Valencia.—Sulphurous and ferruginous waters. 107
- 271 Durege, Julio, San Diego de los Baños, Island of Cuba.—View of sulphurous baths and springs. 107

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- 272 Richard & Granducontagne, Barbadillo de Herreros, Province of Burgos.—Soft iron and pig iron. 111
- 273 Corporation of Cobeta, Province of Guadalajara.—Iron and iron ore. 111
- 274 Arroyo, Juan, Cervantes, Province of Lugo.—Iron. 111
- 275 Ojea Porras, José, Cervantes, Province of Lugo.—Iron. 111
- 276 Somoza, Juan Manuel, Caurel, Province of Lugo.—Iron. 111
- 277 Lopez, José Maria, Puertomarín, Province of Lugo.—Iron. 111
- 278 Foundry & Delft Factory of Sargadelos, Servo, Province of Lugo.—Cast ingot. 111
- 279 Monriz, Gabriel, Lugo.—Horse bit. 111
- 280 Corral, Francisco, Triacastela, Province of Lugo.—Horse shoes. 111

- 281 Heredia, Sons of M. A., Málaga.—Iron, plates, boiler-plates, etc. 111
- 282 District Mining Engineers, Málaga.—Iron slag. 111
- 283 National Factory of Trubia, Oviedo.—Iron, steel, etc. 111
- 284 Uria & Pinilla, Navia of Luarea, Province of Oviedo.—Iron ingot. 111
- 286 Director of the Mining & Manufacturing Company del Pedroso, Cazalla de la Sierra, Province of Seville.—Iron castings and iron plates. 111
- 287 Belles, James, Albarracin, Province of Teruel.—Forged iron. 111
- 288 Valdemoro, Juan Francisco, Teruel.—Forged iron. 111
- 289 Ibarra & Co., Baracaldo, Province of Vizcaya.—Iron. 111
- 290 Corps of Mining Engineers, Hu-elva.—Copper cement and copper. 112
- 291 Villalobos Bros., Berja, Province of Almeria.—Lead. 113
- 292 Mines of Almadén, Province of Ciudad-Real.—Quicksilver ore. 113
- 293 Figueroa, Ignacio, Guarroman, Province of Jaen.—Lead in pigs. 113
- 294 Velasco, Bros, Linares, Province of Jaen.—Lead bars. 113
- 295 Macia & Co., Demetrio, Penouta, Province of Orense.—Tin bar. 113
- 296 Vila Yanex, Francisco, Pentes, Province of Orense.—Tin. 113
- 297 El Porvenir Mining Society, Mieres, Province of Oviedo.—Tin. 113
- 298 Alen, Pedro & Manuel, Santa Maria de Acibeiro, Province of Pontevedra.—Tin. 113
- 299 Vazquez Gullas, Francisco, Beariz, Province of Orense.—Oxide of tin. 113
- 300 Rui & Tolon, Barcelona.—White metal. 114

Mining Engineering.

- 301 Piquet, Alfonso Emilio, Horcajo de los Montes, Province de Ciudad-Real.—Plan of the mines of Horcajo. 120
- 302 Mines of Almadén, Province of Ciudad-Real.—Plans of subterranean works, machines, etc. 120
- 303 Grappin, G., Salorino, Province of Cáceres.—Model of the mine Constancia. 121
- 304 Sabate Brunet, Salvador, Barcelona.—Instruments for the exploration of hard rocks. 120

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PHILIPPINE ISLANDS.

*(South of Nave, Columns 16 to 18.)***Minerals, Ores, Stone, Metallurgical Products.****Minerals, Ores, Stones, Mining Products.**

- 1 Inspection of Mines, Province of Cebu.—Fossil charcoal and auriferous galena. 100
- 2 Con-ui, Isaac, Province of Cebu.—Sand with fossils, and fossil charcoal. 100
- 3 Manzano, Juan., Province of Albay.—Fossil charcoal. 100
- 4 Perez, Norberto, R.P.Fr., Province of Pangasinan.—Rock argil and volcanic tophus. 100
- 5 Provincial Commission of Camarines Norte.—Oxydized magnetite, chromate of lead, auriferous minerals. 100
- 6 Llanos, R.P.Fr. Antonio, Province of Lepanto.—Minerals and products of furnaces. 100
- 7 Veloso, Pascal, Province of Cebu.—Fossil charcoal and auriferous galena. 100
- 8 Anchuelo, Quiterio, Province of Bulacan.—Oligistic iron. 100
- 9 Inspection of Mines, Province of Camarines Norte.—Cupreous sand with native copper. 100

- 10 Inspection of Mines, Province of Bulacan.—Oxydized magnetite. 100
- 11 Commission of the District of Benguet, Province of Benguet.—Auriferous sand. 100
- 12 Inspection of Mines, Province of Camarines Sur.—Fossil charcoal. 100
- 13 Inspection of Mines, Province of Albay.—Fossil charcoal, argil, quartzose vein, jet, and sulphur. 100
- 14 Alonzó, Teodoro, Province of Manila.—Amorphous phosphorus. 100
- 15 Inspection of Mines, Province of Lyte. 100
a Sulphur. 102
b Marble. 102
- 16 Municipal Athenæum, Province of Manila.—Marble and jasper. 102

Metallurgical Products.

- 17 Provincial Commission of Masbate.—Gold-dust and grains. 110
- 18 Commission of the District of Lepanto, Province of Lepanto.—Gold-dust and gold. 120

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Minerals, Ores, Stone.

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| <p>Minerals, Ores, Stones, Mining Products.</p> <p>1 Antonio, Martins, Henriques, & Co., Mont Alto.—Antimony ore from Mont Alto. 100</p> <p>2 Cortes Pereira Antimony Mine Exploring Co.—Antimony ore. 100</p> <p>3 Antimony Mining Co. of Corte Pereira.—Antimony ore. 100</p> <p>4 Blanck, Carlos Frederico, Lisbon.—Antimony ore from Herdade da Prata. 100</p> <p>5 Barriga, Antonio F., Portalegre.—Quartz of Valle de Peso. 100</p> <p>6 Caveira Mining Co., Grandola.—Copper ore from the Caveira mine. 100</p> <p>9 Deliguy, Ernest, Lisbon.—Copper ore. 100</p> <p>10 Elliott, George, & Ferreira Castello, José H., Lisbon.—Iron ores from Ares Zambujal and San Bartholomeu mines. 100</p> <p>11 Elliott, George, Alvito.—Iron ores from San Bartholomeu and Zambujal mines. 100</p> <p>12 Feurheerd, F. Detlof, & Cruickshank, William, Braçal.—Lead and zinc ores from Braçal and Malhada mines; copper ore from Changa. 100</p> <p>13 Giron, D. José, Lagoas do Paço.—Manganese ore. 100</p> <p>14 Gomes, Alonso, Mertola.—Manganese ore from the Paraíso, Ferragudo, and Calvo mines. 100</p> <p>15 Malhada Mining Co., Malhada.—Copper ore from Malhada mine. 100</p> <p>16 Monges Iron Co. (limited), Lisbon.—Iron ore from Serra des Monges. 100</p> <p>17 Moraes, José Gonçalves, Arronches.—Iron, manganese, and argentiferous lead ore. 100</p> <p>18 Mason & Barry, Mertola.—Copper ores from San Domingo. 100</p> <p>19 Oliveira, João Correia, Senhora de Castello.—Tin ore. 100</p> <p>20 Oliveira, Bento Rodrigues de, San Pedro do Cova.—Anthracite, sulphuret of antimony, and galena. 100</p> <p>21 Portuguese Copper Mining Co., Évora. Specimens of ores from Basalho mine. 100</p> <p>22 Portuguese Mining Co., Covelloa.—Tin ore. 100</p> <p>23 Perseverança Co., Oporto.—Antimony ore from Valle d'Ache, and tin ore from Logar d'Aborin. 100</p> | <p>24 Sequeira, Thomas, & Carneiro d'Andrade, Eduardo, Beja.—Copper ore from Juliana mine. 100</p> <p>25 Schreck, Maximiliano, & Kemp, Mauricio, Oporto.—Antimony ore from Campo Redondo; manganese from Pinhal da Cunha. 100</p> <p>26 Serrinha Tin Co. (limited), Oporto.—Tin ore from Serrinho da Casca. 100</p> <p>27 Telhadella Mining Co., Telhadella.—Copper ores. 100</p> <p>28 Tras-os-Montes Mining Co., Bragança.—Tin ore. 100</p> <p>29 Transtagana Mining Co., Lisbon.—Copper ores. 100</p> <p>30 Velho, Agostino Francisco, & others, Villa Real.—Lead ore. 100</p> <p>31 Freixo, Viscount de, Oporto.—Argentiferous lead ore. 100</p> <p>32 Zarzechi, Ladislau, Oporto.—Lead ore from the Pego mine. 100</p> <p>33 Department of Mines, Lisbon.
 a Manganese, tin, and antimony ores; iron pyrites. 100
 b Marbles. 102</p> <p>34 Oliveira, Bento Rodrigues d', S. Pedro de Cova.
 a Lead and antimony ore. 100
 b Mineral coal. 101</p> <p>35 Industrial Union Co., Povoa de Pedoride.—Coal. 101</p> <p>35a Cabral, Frederico A. de V. P., Oporto.—Coal from Monte das Cavadinhos. 101</p> <p>36 Direction of the Public Works of Braga.—Building stones, etc. 102</p> <p>37 Barreto, Antonio Tavares, Santarem.—Limestone from the Granja quarry. 102</p> <p>38 Carvalho, Venceslau M. de, Condeixa a Velha.—Samples of marbles from Condeixa quarries. 102</p> <p>39 Brites, Augusto Pereira, Torres Novas.—Building stone. 102</p> <p>40 Direction of the Public Works of Vianna do Castello.—Building materials. 102</p> <p>41 Vallongo Slate & Marble Quarries Co., Oporto.—Slabs and roofing slate. 102</p> <p>43 Governor of the Civil District of Ponte Delgada.—Building materials. 102</p> <p>44 Rato, Antonio Moreira, Lisbon.—Marbles. 102</p> <p>45 Santos, Joaquim Antunes dos, Lisbon.—Samples of marble. 102</p> <p>46 Salles, Joaquim José de, Lisbon.—Marbles. 102</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

Stone, Minerals, Metallurgical Products, Engineering.

- 47 Salles, Germano José de, Lisbon.—Marbles. 102
- 48 Bessoni, Viscount de, Cintra.—Marbles. 102
- 49 Ponta Delgada, Committee of.—Building materials. 102
- 50 Direction of the Public Works of Vizeu, Vizeu.—Building materials. 102
- 51 Direction of the Public Works of Oporto, Oporto.—Building materials. 102
- 52 Direction of the Public Works of Aveiro, Aveiro.—Building materials. 102
- 53 Direction of the Public Works of the Mondego river & Figueira bar, Coimbra.—Building materials. 102
- 54 Direction of the Public Works of Coimbra, Coimbra.—Building materials of the district. 102
- 55 Direction of the Public Works of Leiria, Leiria.—Building materials of the district. 102
- 56 Extremoz Marble Quarrying Co., Extremoz.—Marbles. 102
- 57 Rasca Cement Exploring Company, Lisbon.—Hydraulic cement. 103
- 58 Parochial Board of Sabacheira, Sabacheira.—Limestone. 103
- 59 Governor of the Civil District of Portalegre.—Phosphate of lime from Marvão. 103
- 60 Lisbon Dyeing & Cotton Printing Company, Lisbon.—Lime. 103
- 61 Ponta Delgada, Committee of.
a Pozzolana and pumice. 103
b Mineral waters of San Miguel, and analysis. 107
- 62 Neuville, Louis, Lisbon.—Kaolin. 104
- 63 Coelho, Francisco, Torres Novas.—Clay. 104
- 64 Manilha, Francisco dos Santos Lopes, Valongo.—Whetstones. 106

- 65 Vidago Mineral Waters Company, Lisbon.—Mineral waters. 10
- 66 Pedras Salgadas Mineral Waters Company, Oporto.—Mineral waters. 107
- 67 Janson, J. H., & Co., Lisbon.—Soda water. 107
- 69 Freitas, Albino, José, Ega.—Mineral waters. 107
- 70 Fialho & Bro., Lisbon.—Mineral waters. 107
- 71 Committee of Administration, Sulphur baths of Castello de Vide.—Sulphurous mineral waters. 107

Metallurgical Products.

- 73 Mason & Barry, São Domingos.—Gold bar and silver bar. 110
- 74 Ferreira & Souza, Oporto.—Gold leaf. 110
- 75 Cardozo, José Pereira, jr., Oporto.
a Gold and silver leaf. 110
b Aluminium, platina, and tin leaf. 113
- 76 Belrollas, Manuel Antonio, Collega.—Horse shoes. 111
- 77 Department of Mines, Lisbon.—Iron from Moncorvo. 111
- 78 Perseverança Company, Oporto.—Tin ingot. 113
- 79 Tras-os-Montes Mining Company, Braganza.—Tin ingot. 113

Mining Engineering.

- 80 Department of Mines, Lisbon.—Plans of mines. 121
- 81 Mason & Barry, Mertola.—Plans of mines; model of a Roman wheel. 121
- 82 Silva, S. A. P. da, & F. A. Marques de Moura, Aveiro.—Plan of a salt pit, with description of same. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TURKEY.

(South of Nave, Columns 14 to 17.)

Minerals, Ores, Stone.

Minerals, Ores, Stone, Mining Products.	
1 Wilkinson, Rizzo, & Co., Koumarlar, Dardanelles.—Sulphur ore, sulphurous copper.	100
2 Tapa, Daniel, Cian, Dardanelles.—Lead ore.	100
3 Sarral, Mouradite, Trebizond.—Argentiferous galena.	100
4 Sarral, Lokhia, Trebizond.—Iron pyrites.	100
5 Schirin Agha, Tirepola, Trebizond.—Copper pyrites.	100
6 Soleiman, Gueugine, Trebizond.—Galena.	100
7 Omer, Oglou Osman, Lokhia, Trebizond.—Galena.	100
8 Omer, Effendi, Ordou, Trebizond.—Argentiferous galena.	100
9 Nimetoulah, Trebelau, Trebizond.—Copper ore.	100
10 Nimetoulah, Kurelli, Trebizond.—Copper pyrites.	100
11 Papparakis, Nicola, Sfakia, Crète.—Lignite.	100
12 Nimetoulah, Mouradite, Trebizond.—Argentiferous galena.	100
13 Moustapha, Effendi, Cherkech, Castamouni.—Chalk.	100
14 Gonssan, Government of, Adana.—Iron pyrites.	100
15 Multesim Onlah, Tireboli, Trebizond.—Ferruginous sediment.	100
16 Multesim, Abdoulah, Tirebole, Trebizond.—Argentiferous galena, copper pyrites.	100
17 Mandenê, Diarbekir.—Silver ore.	100
18 Multesim, Tireboli, Trebizond.—Cupreous pyrites.	100
19 Ligory, Effendi, Stankeny, Dardanelles. a Manganese, iron ore, and sulphur ore.	100
b Emery.	106
20 Kara-Hissar, Government of, Sivas.—Argentiferous galena, aluminous earth.	100
21 Ali, Hadji Diarbekir.—Brimstone of the desert.	100
22 Moustapha, Hadji, Nich, Danube.—Iron stone.	100
23 Adrianople, Government of. a Powdered mica.	100
b Coal.	101
c Sand for mouldings.	104
24 Debrê, Government of, Monastir.—Barytate of chalk.	100
25 Aydin, Government of.—Argentiferous galena, lignite, iron ore.	100
26 Adana, Government of.—Sulphate of chalk and galena.	100
27 Gamsuch Hanê, Government of, Trebizond.—Argentiferous and cupreous galena.	100
28 Ichkodra, Government of, Monastir.—Sulphur ore.	100
29 Ichkloura, Government of, Monastir.—Brimstone, arsenical ore, and sulphate of copper.	100
30 Havret, Government of, Salonica.—Argentiferous galena.	100
31 Topouz, Oglou, Imbroa, Dardanelles. a Lead ore.	100
b Coal.	101
32 Koniah, Government of.—Brimstone.	100
33 Micherê, Government of, Yanina.—Lignite.	100
34 Medina, Government of, Hidjas.—Rock crystals.	100
35 Maghlê, Government of, Aydin.—Argentiferous galena, iron and chrome ores.	100
36 Militinous, Government of, Samos. a Talc.	100
b Yellow earth, argil.	104
37 Lapsaki, Government of, Dardanelles.—Brimstone.	100
38 Karssendi, Government of, Adana. a Copper and silver ore, lignite and galena.	100
b Grit sandstone.	102
39 Tdomane, Government of, Yanina.—Galena.	100
40 Trebizond, Government of.—Galena.	100
41 Uskup, Government of, Monastir.—Aluminous earth.	100
42 Samos, Government of. a Galena.	100
b White and colored marble.	102
c Argil.	104
d Emery.	106
43 Suleimanecyâh, Government of, Ragdad. a Melted brimstone, cut rock crystal.	100
b Argil.	104
44 Smyrna, Government of, Aydin.—a Lignite, argentiferous galena, iron ore, manganese.	100
b Emery, grindstones.	106
45 Syros, Government of, Salonica.—Lignite.	100

For names of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-18.

Minerals, Ores, Stone, Metallurgical Products.

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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

RUSSIA.

(South of Nave, Columns 19 to 23.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stones, Mining Products.

- 1 Yoogoff Iron Works, Government of Perm.—Copper ores. 100
- 2 Pootiloff Iron Works Company, St. Petersburg.—Iron ores. 100
- 3 Administration of the Goroblagodati Mining District, Government of Perm.—Magnetic and other iron ores. 100
- 4 Administration of the Mining Districts in Western Poland.
 - a Iron ore, calamine, and lead blende. 100
 - b Coal. 101
 - c Refractory clay. 104
- 5 Administration of the Clonetz Mining District.—Lake iron ore. 100
- 6 Rogosloosky Crown Copper Works, Government of Perm.—Copper ores. 100
- 7 Demidoff, Paul, Prince of San Donato, Nigni Tagil, Ural Mountains, Government of Perm.—Iron and copper ores. 100
- 8 Gessrick & Woerfel, St. Petersburg.—Siberian minerals and hard stones. 100
- 9 Kniaze Michailoffi Crown Steel Works, Government of Orenburg.—Magnetic iron ore. 100
- 10 Mining School, St. Petersburg.—Minerals and paleontological collection. 100
- 11 Bashkoff, Basil, Bogoyavlensk, & Verkhotoorgi, Government of Oefa.—Copper ores. 100
- 12 Russian Rail Manufacturing Company, Government of Riazan, District of Trensk.—Iron ore. 100
- 13 Saltkinsky Crown Iron Works, Government of Orenburg.—Brown and sparry iron ores. 100
- 14 Sidoroff, Michael, St. Petersburg.
 - a Iron ore. (Northern limits of Russia.) 100
 - b Siberian graphite from the district of Toorookhansk. 105
- 15 Yakovleff, John, Alexandria, Government of Kherson.
 - a Iron ore. 100
 - b Graphite. 105
- 16 Russian Navigation & Trade Company, Odessa.—Specimens of anthracite coal. 101
- 18 Majervsky, T., & Stochelsky, M., Government of Pietrkoff, district of Bendzin.—Coal. 101
- 19 Sidoroff, Michael, St. Petersburg.—Bituminous coal, from underground fire burning since 1700. 101

- 20 Zievers, B. Wesenberg, Government of Est-land.—Portland cement. 103
- 21 Schmidt, C., Riga.—Cement. 103
- 22 Sytenko, John, Moscow.—Limestone and plaster. 103
- 23 Lanin, Nicolas, Moscow.—Mineral water. 107

Metallurgical Products.

- 27 Mining Department, St. Petersburg.—Native platinum, osmiridium (purified), and platinum. 110
- 28 Miasky Government Gold Mines, Government of Orenburg.—Gold-bearing sands; illustration of gold washing machines. 110
- 29 Votkinsk Crown Iron Works, Government of Perm.—Iron (in bars), and cast steel. 111
- 30 Pootiloff Iron Works Company, St. Petersburg.—Cast and wrought iron, steel, twisted rail. 111
- 31 Gun Foundry, Perm.—Cast and wrought iron; steel sections of cast steel guns. 111
- 32 Kama Armor Plate Works, Government of Perm.—Armor plate 111
- 33 Administration of the Goroblagodati Mining District, Government of Perm.—Cast iron projectile. 111
- 34 Administration of the Olonets Mining Districts.—Cast and wrought iron; section of cast iron guns. 111
- 35 Demidoff, Paul, Prince of San Donato, Nigni Tagil, Ural Mountains, Government of Perm.
 - a Iron; pig bars, ingots, rails, sheets, slags, and flakes. 111
 - b Copper ingots, bars, sheets; illustrations of style of working. 112
- 36 Russian Rail Manufacturing Company, Government of Riazan, District of Trensk.—Cast iron and iron wire. 111
- 37 Satkinsky Crown Iron Works, Government of Orenburg.—Cast iron. 111
- 38 Admiralty Tyora Works, near St. Petersburg.—Boiler plates. 111
- 39 Yoogoo Copper Works, Government of Perm.—Copper (in bars and ingots), and products of working. 112
- 40 Pashroff, Basil, Bogolavlensk & Vennihotoorgi, Copper Works, Government of Oefa.—Copper ingots, bars, rolled wire, and spangles; illustrations of methods of working. 112

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products, Mining Engineering.

42 Ragoslovsky, Crown Copper Works, Government of Perm.—Illustrations of productions of copper. 112

43 Rastergaef, Gregory, St. Petersburg.—Tinned iron sheets. 114

Mining Engineering.

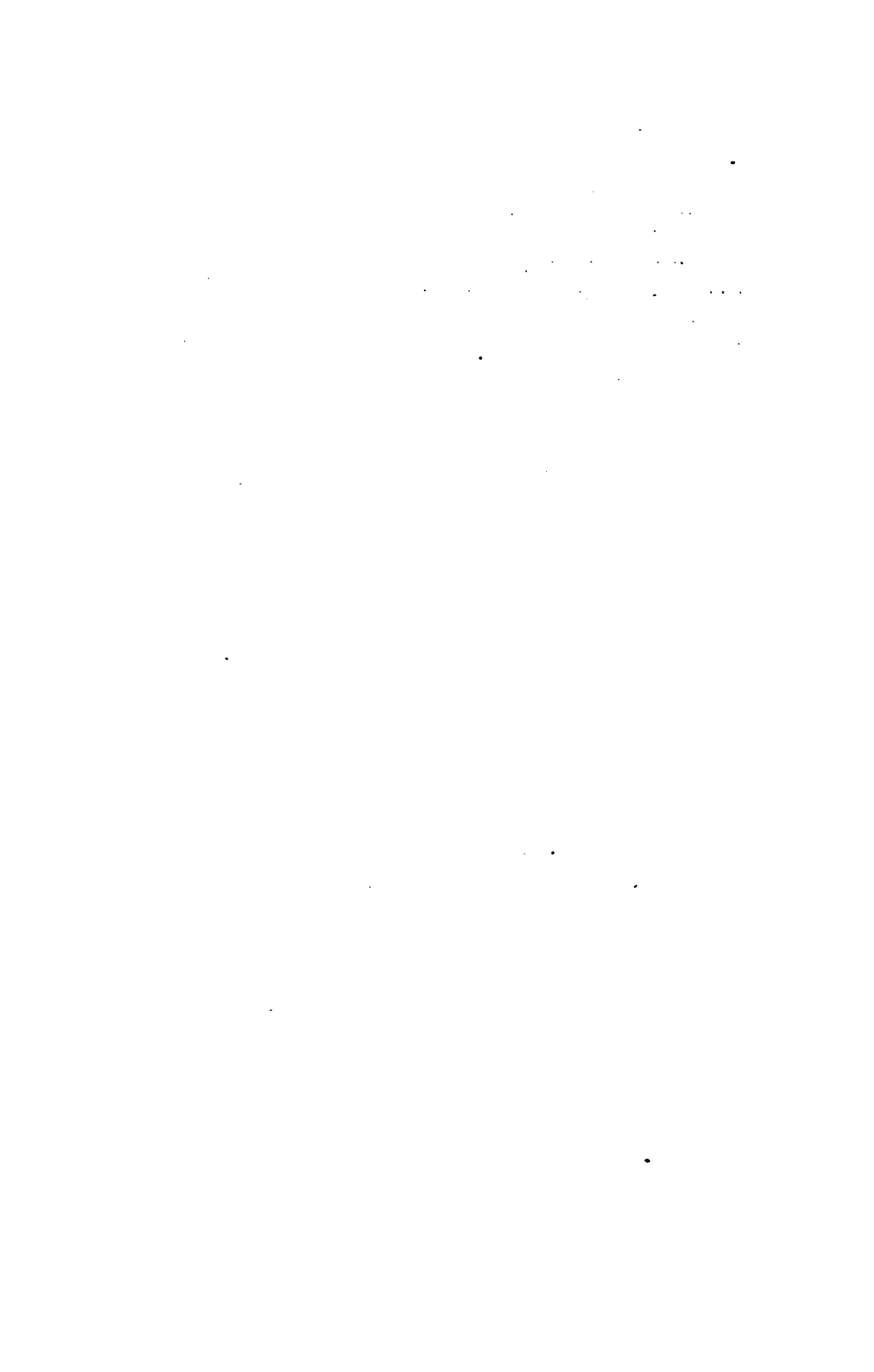
44 Administration of Mines in Finland.—Helsingfors' editions and reports on local mine engineering and geology. 120

45 Scientific Committee of the Mining Department, St. Petersburg.—Special editions and periodicals on mine engineering. 120

46 Demidoff, Paul, Prince of San Donati, Nizni Tagil, District of Ural Mountains, Government of Perm.—Maps, plans, and views of this mining district; illustrations of gold washing process. 120

47 Babin, Victor, & Lepooshinsky, Moscow.—Illustrations of boring process, artesian well, and apparatus. 120

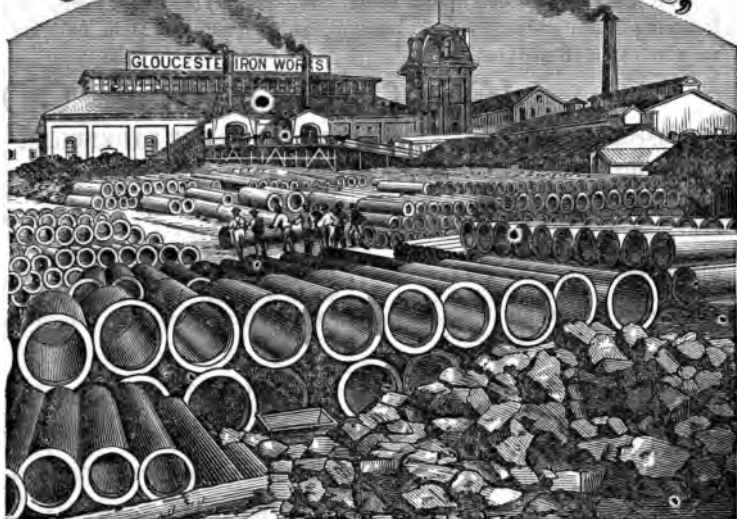
For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.



David S. Brown, Pres't.
Benj. Chew, Treas.

Jas. P. Michellon, Sec'y,
Wm. Sexton, Sup't.

GLOUCESTER IRON WORKS, GLOUCESTER CITY, NEW JERSEY.



Cast Iron Gas & Water Pipes, Stop Valves, Fire Hydrants, Gas Holders, &c.

Office, Philadelphia. No. 6 North Seventh St.

PHILADELPHIA LEAD WORKS.

ESTABLISHED 1813.



JOHN T. LEWIS & BROS.,

MANUFACTURERS OF

WHITE LEAD, RED LEAD, LITHARGE,
ORANGE MINERAL, SUGAR OF LEAD, ACETIC ACID,
Linseed Oil, Painters' Colors.

**BUSINESS OFFICE, 231 SOUTH FRONT STREET,
PHILADELPHIA.**

7739

FIRE ARMS, Etc.

PRICES quoted, description given, and some SAMPLES shown, of the following Manufacturers' Goods, now on exhibition in the Main Building of the Centennial Exposition.

JOS. C. GRUBB & CO.,

Manufacturers' Agents.

712 Market St., PHILADELPHIA.

J. RUPERTUS, Empire Revolvers.

" C. SHARPS, Pat. 4 Shot Repeaters.

F. WESSON, Breech-Loading Rifles.

" " Target Pistols.

WINCHESTER, Reptg. Rifles and Cartridges.

SHARPS, Target and Sporting Rifles.

FOREHAND & WADSWORTH, Revolvers.

COLT'S Patent Firearm Mfg. Co. "

SMITH & WESON, Revolvers.

WHITNEY, Rifles and "

REMINGTON, " " and Breech-loading Double Guns.

AMERICAN FLASK AND CAP Company.

AMERICAN PERCUSSION CAP Association.

WM. G. RAWBONE, Patent Creasers.

PARKER BROS., American Breechloading Guns.

JAMES PURDEY, London, Breechload'g Guns.

JOHN RIGBY & CO., " "

E. M. REILLY & CO., " "

J. LANG & SONS, " "

ALBERT LANCASTER " "

CHAS. LANCASTER, " "

ALEX. HENRY, Edinburgh, " "

Harpoon and Bomb Lance Guns.

W. & C. SCOTT & SON, Birmingham, " "

P. WEBLEY & SON, Birmingham, Breech-loading Guns.

W. W. GREENER, Birmingham, Breechloading Guns.

ELEY BROS., London, Shells, Wads, Caps, etc.

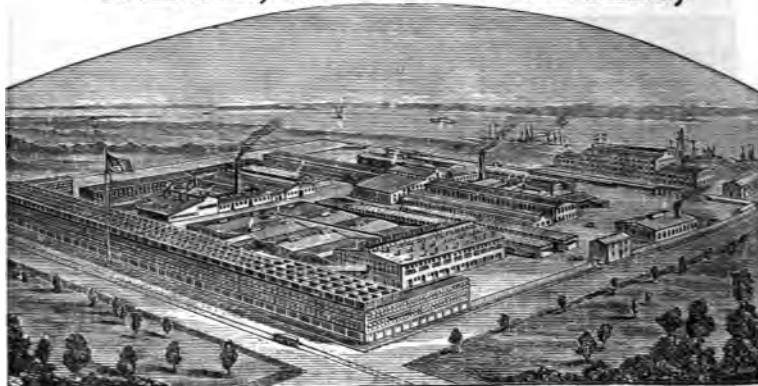
PIGOU, WILKS & LAURENCE, London, Gunpowder.

SELLIER & BELLOT, Percussion Caps.

BAEDER, ADAMSON & CO.,

MANUFACTURERS OF

GLUE, SAND PAPER,



GROUND FLINT AND EMERY,

EMERY PAPER AND EMERY CLOTH,

CURLED HAIR AND STUFFING HAIR,

MOSS, COW-HIDE WHIPS, FELT HAIR, AND FELTING.

FACTORIES:

PHILADELPHIA, Pa.
NEWARK, N. J.
WOBURN, Mass.

STORES:

Philadelphia, 730 Market Street.
New York, 67 Beekman Street.
Boston, 143 Milk Street.
Chicago, 182 Lake Street.

DEPT. II.—MANUFACTURES.

UNITED STATES.

Chemicals, Pharmaceutical Preparations.

Chemical Manufactures.

- 1 Gantz, Geo. F., & Co., New York, N. Y.—Baking powder. T 47. 200
- 1^a Feuchtwanger, L., & Co., New York, N. Y.—Polytechnic chemicals. T 47. 200
- 2 Royal Baking Powder Co., New York, N. Y.—T 47. 200
 - ^a Baking powder. 200
 - ^b Flavoring extracts, celery salt 203
- 2^a Ohio River Salt Co., Pomeroy, O.—Salt. V 63. 200
- 3 Hance Bros. & White, Philadelphia, Pa.—Solid and fluid extracts, sugar-coated pills. P 43. 200
- 3^a Procter, Wm., jr., & Co., Philadelphia, Pa.—Saccharated pepsin. P 48. 200
- 4 Fries, Alex., & Bros., New York, N. Y.—P 48. 200
 - ^a Chemicals, coloring, etc. 200
 - ^b Artificial fruit and liquor essences, flavors for cigars. 203
- 5 Gordon, W. J. M., Cincinnati, O.—Chemicals, glycerine, sugar-coated pills, podophyllin, hydrastine. P 47. 200
- 6 Rosengarten & Sons, Philadelphia, Pa.—Sulphates of quinine and morphine, and other chemicals for use in medicine and the arts. P 41. 200
- 7 Warner, Wm. R., & Co., Philadelphia, Pa.—Sugar-coated pills and pharmaceutical preparations. P 43. 200
- 7^a Hirsch, Joseph M., Chicago, Ill.—Chemicals, albumen, dried blood, alizarine, carbolic acid, coal tar products, etc. P 47. 200
- 8 Campbell, Sam'l, Philadelphia, Pa.—P 47. 200
 - ^a Medicinal fluid extracts. 200
 - ^b Perfumery and toilet articles. 203
- 8^a Williamson, D. D., New York, N. Y.—Bisulphite of lime, finings, beer coloring, cleansing powders, tannate of soda, etc. P 49. 200
- 9 Kraitsir, M. C., Philadelphia, Pa.—Medicines, perfumery, etc., in a marble show case. The marble is from a new quarry just opening in Lebanon Valley, Pa. T 43. 200
- 9^a Scheffer, E., Louisville, Ky.—Preparations of pepsin. P 48. 200
- 10 Keasbey & Mattison, Philadelphia, Pa.—Granular effervescent preparations, gelatine-coated pills, pharmaceutical specialties. P 43. 200
- 10^a Hance, R. A., Philadelphia, Pa.—Fluid extracts. T 43. 200
- 11 Twining & Schiedt, Philadelphia, Pa.—Fluid and solid extracts, sugar-coated pills, elixirs, concentrated preparations, chemicals, syrups, tinctures, powdered drugs. T 41. 200
- 11^a Shoemaker, Robert, & Co., Philadelphia, Pa.—Fluid extracts; ground, crushed, and powdered drugs and spices. P 43. 200
- 12 Powers & Weightman, Philadelphia, Pa.—Sulphate of quinia, salts of cinchona barks, sulphate of morphia; chemicals, medicinal, photographic, and for the arts. P 41. 200
- 12^a Morrison, Arthur B., Portland, Me.—Gold and silver solution for electrotyping without a battery; restorative for cleaning jewelry. T 57. 200
- 13 Harrison Brothers & Co., Philadelphia, Pa.—P 41. 200
 - ^a Chemicals, alum, sugars of lead, acetates of lime; sulphuric, nitric, muriatic, acetic, and pyroigneous acids. 200
 - ^b White lead, dry and in oil; colors for painters, lithographers, and calico printing. 202
- 13^a Central Ohio Salt Co., Columbus, O.—Salt from Athens county. V 63. 200
- 14 Doerr & Sloan, Philadelphia, Pa.—Lacto-phosphate of lime, iron, and cod-liver oil. T 40. 200
- 15 Mellor & Rittenhouse, Philadelphia, Pa.—Licorice and pharmaceutical extracts; glycerine composition for printers' rollers. P 41. 200
- 16 Stearns, Frederick, Detroit, Mich.—Pharmaceutical products peculiar to United States, representing his catalogue, number 75, 132 pages, 168 classes, and 10,000 items. P 41. 200
- 17 Dunton, Jacob, & Co., Philadelphia, Pa.—Pills. Compressed lenticular non-excipient porous pills, made from dried powders, by pressure, without admixture; are as soluble after ten years as when first made, and much more readily dissolved than any freshly-made excipient pill. Process and machinery patented. T 40. 200
- 18 Simes, Wm. F., & Son, Philadelphia, Pa.—Camphor, sublimed and compressed into convenient blocks of 1 ounce and 4 ounces; is very durable, strong in natural oil, and perfectly pure. Patented. P 41. 200
- 19 Tacony Chemical Works, Philadelphia, Pa.—Acids, chemical salts, etc. T 42. 200

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemicals, Pharmaceutical Preparations.

- 30 Dreyfus, J. G., & Co., New York, N. Y.—Cream of tartar. T 400
- 31 Mockridge, E. & Co., Philadelphia, Pa.—Arsenic. T 400
- 32 Salbeck & Crenshaw, Philadelphia, Pa.—Sugar-coated pills. United States Pharmacopoeia and reviews of eminent physicians, accurately compounded, readily soluble, and strongly resistant in every particular. T 400
- 33 Pennsylvania Salt Manufacturing Co., Philadelphia, Pa.—Knox's alum, or soda, acids also made and manufactured. T 400
- 34 Savage, Keyser, & Stevens, Philadelphia, Pa.—Acids and salts. T 400
- 35 Philadelphia Quartz Co., 9 North Front street, Philadelphia, Pa.—Silica in sand, &c. in various forms, specially adapted to the different uses. T 400
- 36 Cryer, Geo. S., Philadelphia, Pa.—Manufacturers and dealers in purest, best, and most useful chemicals and medicinal preparations. Specialties: Church's Compound, Philadelphia, Pa.; Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 37 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 38 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 39 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 40 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 41 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 42 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 43 Church's Compound, Philadelphia, Pa.—Church's Compound, New York, N. Y.; Church's Compound, London, England. T 400
- 44 Hagner Drug Milling Co., Philadelphia, Pa.—Powdering, grinding, flaking, crushing, and other mill work. T 400
- 45 Bower, Henry, Philadelphia, Pa.—Glycerine, stearic and oleic acids; prussiate of potash, sulphate of ammonia. T 400
- 46 Browning & Brothers, Philadelphia, Pa.—T 400
- 47 Brown and Associates of lime, lead, alumina and iron, superphosphate. T 400
- 48 Nephthys. T 400
- 49 Dreyfus. T 400
- 50 Ledy, Francis D., Philadelphia, Pa.—Soda powder, washing crystals. T 400
- 51 Bear, Lewis U., Philadelphia, Pa.—T 400
- 52 Pharmaceutical preparations, drugs, &c. T 400
- 53 Pillsbury, Chas. & Co., New York, N. Y.—Pharmaceutical and chemical products: cream tartar, tartaric acid, refined borax, and camphor. P 400
- 54 Prescott & Merrill, Boston, Mass.—T 400
- 55 Soda powder. T 400
- 56 Sugar of camomile, flavoring extracts. T 400
- 57 Meyer, Jas. H. & Co., New York, N. Y.—Mercuric dismercurate. Inodorous and colorless. Does not injure any object or material; may be applied to: destroys and neutralizes almost instantly the most offensive odors, vapors, or gases; arrests fermentation, prevents decay, and is invaluable as an agent for embalming. T 400
- 58 Billings, Mary, & Co., Boston, Mass.—Chemicals. Manufacturers of acids, alkalis, ethers, chloroforms, podophyllin, preparations of gold, silver, tin, iron, zinc, iron, mercury, and rare chemicals. Price lists and special quotations sent on application. T 400
- 59 Wackerstein, Brown, Ellis, & Co., Philadelphia, Pa.—Drugs and chemicals. T 400
- 60 Phillips & Jacobus, Philadelphia, Pa.—Manufacturers of the recovery of gold and silver from wastes in the mineral arts. T 400
- 61 Lander & Son, New York, N. Y.—Acids, &c. T 400
- 62 White, Charles T., & Co., No 54 Nassau street, New York.—Pharmaceutical chemicals, gumma, borax, crystalline, and other acids, bromides, acids, &c. &c. Agents of merit for appearance and purity. See catalogue (see-110); catalogue, the (see-110) (see-110). T 400
- 63 United States Salicylic Acid Works, New York, N. Y.—Salicylic acid and its derivatives. T 400
- 64 Day, James H., New York, N. Y.—Acids and salts of superphosphate. T 400
- 65 Carter, J. S., New York, N. Y.—Acids and salts, chloroform, acetic acid, &c. T 400
- 66 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 67 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 68 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 69 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 70 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 71 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 72 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 73 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 74 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 75 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 76 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 77 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 78 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 79 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 80 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 81 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 82 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 83 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 84 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 85 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 86 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 87 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 88 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 89 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 90 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 91 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 92 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 93 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 94 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 95 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 96 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 97 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 98 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 99 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400
- 100 Day, James H., & Co., Philadelphia, Pa.—Acids and salts, chloroform, acetic acid, &c. T 400

Oils, Soap, Candles.

- 64^a Fraser Lubricator Co., Jersey City, N. J.—Axle grease. T 50. 201
- 65 Pease, F. S., Buffalo, N. Y.—Pease's "Premium Oils." Improved Oils for Railroads, Steamers, and all classes of Machinery and Burning. P 41. 201
- 66 Baker, John C., & Co., Philadelphia, Pa.—Medicinal cod-liver oil, pure, and in combination with other agents. P 43. 201
- 66^a Leonard & Ellis, New York, N. Y.—Cylinder oil. T 54. 201
- 67 Eavenson, Jones, & Sons, Philadelphia, Pa.—Laundry soaps. T 43. 201
- 68 Morgan's, Enoch, Sons, New York, N. Y.—Sapolio, for cleaning and polishing; hand sapolio, for toilet. T 48. 201
- 69 Cragin, I. L., & Co., Philadelphia, Pa.—Dobbins' electric soap and materials used in its manufacture. P 47. 201
- 70 Wrigley, Wm., & Co., Philadelphia, Pa.—Mineral scouring soap. T 44. 201
- 71 McKeone, Van Haagen, & Co., Philadelphia, Pa.—Soaps, oils, perfumery, soap stock, candles. T 39. 201
- 72 Conway, Wm., Philadelphia, Pa.—Laundry soaps. T 49. 201
- 73 Marx & Rawolle, New York, N. Y.—T 40. 201
^a Glycerine. 201
^b Lacquers and French varnishes, bleached and refined gum shellac, sealing wax. 202
- 74 Gest & Atkinson, Cincinnati, O.—Lard, tallow, grease; lubricating, burning, and paint oils; car candles. T 39. 201
- 75 Loper & Doughten, Philadelphia, Pa.—Naval stores. T 43. 201
- 76 Fallor, Geo. J., Philadelphia, Pa.—Sewing machine oils. T 44. 201
- 7 Dreydoppel, Wm., Philadelphia, Pa.—Borax soap. T 50. 201
- 78 Elkins, Wm. L., Philadelphia, Pa.—Petroleum, lubricating oils, gasoline, and deodorized naphtha. T 49. 201
- 79 Page, Kidder, & Fletcher, New York, N. Y.—Coal tar products and their uses. T 42. 201
- 80 Aladdin Oil Co., Pittsburg, Pa.—Illuminating and lubricating oils, paraffine, etc. T 43. 201
- 81 Robinson Bros. & Co., Boston, Mass.—Toilet soaps, silver soap. P 47. 201
- 82 Williams, J. B., & Co., Glastonbury, Conn.—Soaps. Manufacturers of Genuine Yankee, Barber's Bar, Clipper, Pumice, Bath, Pocket Shaving, Verbena Cream, and other popular shaving and toilet soaps. P 47. 201
- 83 Brown, Robt. B., & Co., St. Louis, Mo.—Castor oil. T 50. 201
- 85 Marvin Brothers & Bartlett, Portsmouth, N. H.—Cod liver oil. T 47. 201
- 86 Kelley, Ezra, New Bedford, Mass.—Watchmakers', mechanics', and sewing machine oils. T 45. 201
- 87 Hartmann, Laist, & Co., Cincinnati, O.—Glycerine. T 50. 201
- 88 Crew, Moore, & Levick, Philadelphia, Pa.—Illuminating and lubricating oils. T 46. 201
- 89 Pratt, Charles & Co., New York, N. Y.—Petroleum and its products, and packages for same. Model of refinery and astral oil works. T 43. 201
- 91 Smith, Chas. K., & Co., Philadelphia, Pa.—Burning and lubricating petroleum oils, miners' and railroad oils. T 40. 201
- 92 Nye, Wm. F., New Bedford, Mass.—Sewing machine, watch, and clock oils. These oils are obtained from the head of the sperm whale, the black fish, and porpoise, and most carefully refined for the purposes mentioned, only during the severest cold of winter. T 49. 201
- 93 Houghton, E. F., & Co., Philadelphia, Pa.—Cosmoline, for medical purposes; cylinder and machinery oils, hydrocarbonated bone black. T 40. 201
- 94 Boyé, M. H., & Lewis, Geo. T., Philadelphia, Pa.—Cottonseed oil, manufactured and refined. T 50. 201
- 95 Harkness, N. W., Philadelphia, Pa.—Refined petroleum, naphtha, residuum; natural lubricating oils, Harkness' wells, W. Va.; filtering apparatus. T 43. 201
- 96 Eastman & Brooke, Philadelphia, Pa.—P 47. 201
^a Soaps. 201
^b Washing blue, Russian dressing, and French blacking. 202
- 97 Devoe Manufacturing Co., New York, N. Y.—Cans with Devoe's faucet nozzle-top, and samples of oil. T 40. 201
- 98 Day & Frick, Philadelphia, Pa.—Laundry soap; polishes for cleaning paint, metal, etc. T 46. 201
- 99 Dodd, A. W., & Co., Gloucester, Mass.—Cod-liver oil. P 47. 201
- 100 Warden & Oxnard, Pittsburg, Pa.—Refined petroleum. T 49. 201
- 101 Oleophine Oil Co., refinery & works, Greenpoint, L. I.; offices, 320 and 322 Broadway, New York, N. Y., and 84 Beaver street, New York, N. Y.—Refined petroleum illuminating oils. Refiners of petroleum; proprietors of the celebrated Oleophine illuminating oils, and manufacturers of the Company's superior patented cans. Oils delivered in barrels and cans, for export and domestic use. T 44. 201
- 102 Munger, John W., Portland, Me.—Detergent compound. P 49. 201
- 103 Eavenson, J., & Sons, Philadelphia, Pa.—Soaps and candles. T 43. 201
- 104 Jewett, John, & Sons, New York, N. Y.—P 47. 201
^a Linseed oil. 201
^b White lead. 202
- 105 Rush & Co., Philadelphia, Pa.—Oils. T 41. 201
- 106 West, C., & Sons, Baltimore, Md.—Refined petroleum oil. T 41. 201
- 107 Miller, William P., & Co., New York, N. Y.—Bodeker's lubricants. T 49. 201
- 108 Galena Oil Works (limited), Franklin, Pa.—Lubricating oil. P 46. 201
- 109 Bassett, George A., Washington City, D. C.—Liquid laundry gloss. T 71. 201
- 110 Todd, A. M., Nottawa, Mich.—Natural oil of peppermint. P 47. 201

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Oils, Paints, Pigments.

- 111 Cook, Caleb, Provincetown, Mass.—Watch and clock oil. T 50. 201
- 112 Dixon Crucible Co., Jersey City, N. J.—Graphite paint. P 72. 202
- 112a Williston, A. L., Northampton, Mass.—Indelible ink and marking pens. T 46. 202
- 113 Hover, J. E., & Co., Philadelphia, Pa.—Chemical writing fluid; black ink, carmine, violet, and copying inks; mucilage. T 47. 202
- 113a Prunier, Pierre, Philadelphia, Pa.—Indigo extract, indigo carmine, tannins, gallo-tannic acid, archil, greens, etc. P 47. 202
- 114 Wetherill & Bro., Philadelphia, Pa.—White and red lead, litharge, orange mineral. T 44. 202
- 115 Lucas, John, & Co., Philadelphia, Pa.—White lead, white zinc, colors, paints, varnishes, Swiss and imperial French greens, etc. T 44. 202
- 117 Bihn & Co., Bridesburg, Philadelphia, Pa.—Lampblack. Established 1844. Manufacturers of all grades of lampblack for painters, curriers, printing ink, oil-cloth, rubber, and wall paper manufacturers. (Put up in handsome pasteboard boxes, neatly labeled.) T 40. 202
- 117a Reisinger Manufacturing Co., Harrisburg, Pa.—Chemical writing fluid. P 68. 202
- 119 Kokosing Oil Co., Gambier, O.—Lampblack. V 63. 202
- 120 Felton, Rau, & Sibley, Philadelphia, Pa.—Coach, furniture, and Japan varnishes. T 40. 202
- 120a Rue, Mrs. S., Philadelphia, Pa.—Furniture polish. W 53. 202
- 121 Reynolds, C. T., & Co., New York, N. Y. (Established 1770).—Paints, dry and in oil, fine colors, chemically pure; superfine quick-drying colors for coach and car painting; ready mixed paints for house and villa painting; laundry blueing, in bags, ready for use; artists' materials, embracing prepared canvas for oil painting, Tyrian water-color tablets, drawing papers and materials; crayons, gilders' tools, brushes for art, painters' and decorators' brushes, grainers' special tools, painters' cutlery, wax-flower materials, etc. The whole line of goods exhibited were taken from their regular stock, made for practical use, and not display. P 42. 202
- 121a Brandeis, L., & Co., New York, N. Y.—Bronze powders; gold, silver, and metal leaf. P 59. 202
- 122 Keystone Paint Co., Muncy, Pa.—Filler for coach, car, and safe painting; paint for school-house blackboards. T 40. 202
- 123 Carter, Dinsmore, & Co., Boston, Mass.—Writing fluid, inks, and mucilage; Lombard's inks and mucilage. T 47. 202
- 124 Fromherz, Jos., Cincinnati, O.—Inks. T 47. 202
- 125 Heller & Merz, New York, N. Y.—Ultramarine. T 41. 202
- 126 Rosenberg, D., & Sons, New York, N. Y.—Varnishes and baking japans. Manufacturers of coach, railway, cabinet, agricultural implements, and miscellaneous varnishes; baking japans for all uses; bronzing and colored varnishes, of all colors, a specialty. T 44. 202
- 127 Ware, M. J., Philadelphia, Pa.—Ostrich feathers, dyed and scoured. P 47. 202
- 128 Lockwood, Brooks, & Co., Boston, Mass.—Writing inks and mucilage. P 47. 202
- 129 Pecora Paint Company, Philadelphia, Pa.—Paints, stains, fillers, and dryers. T 41. 202
- 130 Davids, Thad., & Co., New York, N. Y.—Writing inks and fluid, mucilage, sealing wax, notarial seals, wafers, etc. T 47. 202
- 132 Raynald, John, 214 George street, Philadelphia, Pa.—Black and colored writing inks, copying inks, mucilage, hair dye, indelible ink. Inventor of the "Jet Black Writing Ink," invented 1860; instantaneously black, and remains so for ages. Raynald's instantaneous black Japan ink, for architecture. Raynald's instantaneous black copying ink, giving three or four copies distinct and perfect; Raynald's purple and greenish fluids at first, afterwards turning very black; Raynald's indelible ink for marking linen, silk, and cotton, with a clean pen or stencil, will not spread—no preparation; fifteen different albumen colors for coloring maps and photographs, all first class. T 47. 202
- 133 Iron Clad Paint Co., Cleveland, O.—Paints manufactured from iron ore, as used in iron smelting furnaces. T 41. 202
- 134 Phillips, C. C., & Co., Philadelphia, Pa.—Varnish and japans. T 41. 202
- 135 Brooklyn White Lead Co., New York, N. Y.—White lead, red lead, litharge. T 41. 202
- 136 Martin, L., & Co., Philadelphia, Pa.—Lampblack. T 41. 202
- 137 Barker, Moore, & Mein, Philadelphia, Pa.—White lead. T 40. 202
- 138 Parsons, John, New York, N. Y.—Glove powder, Dixon's silver powder, carmine and violet inks, pocket mucilage. T 47. 202
- 139 Waggoner, Gifford, & Co., Chicago, Ill.—Mixed paints. T 59. 202
- 140 Thompson, Albert, Bridgewater, Conn.—American sienna paint. T 40. 202
- 141 Sharpless, John M., & Co., Philadelphia, Pa.—Solid and liquid extract logwood. T 46. 202
- 142 Polychroite Veneer Co., Philadelphia, Pa.—Wood fibre composition, for decorating wood and other surfaces. P 57. 202
- 143 Mathers', Geo., Sons, New York, N. Y.—Type and lithographic printing inks. T 47. 202
- 144 Meyers, Simon S., Philadelphia, Pa.—Stove polish, liquid blueing, in ejecting bottles. T 47. 202
- 145 Valentine & Co., New York, N. Y.—Varnishes, etc., for fine coach and car work. T 43. 202
- 146 Milliken, Eugene, Boston, Mass.—Electrocon liquid polish. T 56. 202
- 147 Masury, J. W., & Son, New York, N. Y.—Grained doors, showing graining colors; superfine colors for coach, carriage, and car painting. T 41. 202

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Pigments, Essences, Perfumery.

- 148 Moss, Geo. A., New York, N. Y.**—Liquid blueing, powder blue, shoe blacking, ladies' shoe dressing, writing inks, etc. T 47. 202
- 149 Adams White Lead Co., Baltimore, Md.**—White lead and products, a new process securing excellence of body, color, softness, uniformity, and durability. T 40. 202
- 150 Smith, Edward, & Co., New York, N. Y.**—Coach and car varnishes, and japan dryers. T 41. 202
- 152 Moser, Chas., & Co., Cincinnati, O.**—Colors, dry and pulp; paints in oil, coach colors, artists' colors. T 41. 202
- 152a Jarboe, J. W., New York, N. Y.**—Ship's model and iron slab coated with enamel paint composition. T 54. 202
- 153 Wright, J. K., & Co., Philadelphia, Pa.**—Printers' and lithographers' inks and varnishes. T 47. 202
- 154 Continental Manufacturing Co., Philadelphia, Pa.**—Inks, writing fluids, mucilage, artists' colors. T 47. 202
- 155 McCloskey, Bro., & Co., Philadelphia, Pa.**—Paints and colors, ground in oil, dry, and in pulp. T 40. 202
- 155a Robinson & Pratt, Philadelphia, Pa.**—Printing and lithographic inks and varnishes. T 51. 202
- 156 Erwin, H., & Co., Bethlehem, Pa.**—Mineral paint from Lehigh valley. T 40. 202
- 157 Prince's Metallic Paint Co., Parryville, Pa.**—Metallic paint and foundry facings. T 50. 202
- 158 Johnson, Chas. Eneu, & Co., Philadelphia, Pa.**—Typographic and lithographic black and colored printing inks, varnishes, etc. T 47. 202
- 159 State of Oregon (by A. J. Dufur).**—Paints and oils. V 56. 202
- 160 Maynard & Noyes, Boston, Mass.**—Writing ink. T 47. 202
- 161 Estes, E. B., & Son, New York, N. Y.**—Sign painters' smalts. T 45. 202
- 162 Rowland, Joseph S. C., Philadelphia, Pa.**—Indelible, canceling, and copying ink, and writing fluid. T 47. 202
- 163 American Bronze Powder Manufactory, Brooklyn, N. Y.**—Bronze powders. N 50. 202
- 164 Francis & Loutrel, New York, N. Y.**—P 74.
a Copyable printing inks. (Patent, April, 1872.) Use any "copying press." 202
b Composition for inking rollers. Does not harden, shrink, or crack; good for all time and climate. 543
- 165 Foering, Geo. W., Locust Valley, Lehigh county, Pa.**—"Saucon sienna." Geologically, and otherwise, a peculiar formation, rich in alumina and peroxide of iron, exhibiting the durability of the best ochres. T 50. 202
- 166 Peirce, I. Newton, Philadelphia, Pa.**—Stone surface enamel colors, and samples. T 70. 202
- 167 Smith, Marshall L., Kimberton, Pa.**—Silex mineral paint. T 70. 202
- 168 Marble, Jerome, & Co., Worcester, Mass.**—Patent indigo blue dye. A pure indigo color produced in any shade, perfectly fast, saving in time and expense, stands all indigo tests; process learned in half a day. T 70. 202
- 169 Zinsser, Wm., & Co., New York, N. Y.**—Bleached and refined shellac, French alcohol copal varnishes, sealing wax. Shellacs are in quality same as unbleached; refined, give clear, transparent solutions; varnishes, quick drying, hard surface; lacquers of lasting colors. P 47. 202
- 170 Thomson, J. S., New York, N. Y.**—Non-erasable and other inks. T 47. 202
- 171 Shaw, Thomas Ogg, Providence, R. I.**—Paint made from mineral from Wyoming Territory. T 50. 202
- 172 Johnson, Henry M., New York, N. Y.**—Kalsomine and fresco paints. P 47. 202
- 173 Stimson & Babcock, Boston, Mass.**—P 47.
a Coach and car varnishes. 202
b Gum copals. 203
- 174 Tetlow, Henry, & Bro., Philadelphia, Pa.**—Perfumery, bouquet and toilet soaps, fine toilet preparations, blanc illusion, etc. P 48. 203
- 175 Hotchkiss, H. G., Lyons, N. Y.**—American official essential oils. P 47. 203
- 176 Upham, Sam'l C., Philadelphia, Pa.**—Extract, cologne, Florida water. Perfume fragrant and lasting. Two medals awarded. P 47. 203
- 177 Wenck & Co., New York, N. Y.**—Perfumes and toilet preparations. P 47. 203
- 178 Wenck & Briesen, New York, N. Y.**—Automatic parlor fountain. P 47. 203
- 179 Chawshaw French Toilet Powder Co.**—Toilet powder and perfumed soap. T 48. 203
- 180 Sulzberger, David, Philadelphia, Pa.**—Fluid extracts, by cold process; cooking extracts, fruit and liquor flavors, fruit ethers. P 48. 203
- 181 Savournin, W. H., Philadelphia, Pa.**—Lily whites, rouges, toilet powders, etc. P 47. 203
- 182 Malcom & Stevenson, Philadelphia, Pa.**—Fruit flavoring extracts. P 47. 203
- 184 Woodworth, C. B., & Son, Rochester, N. Y.**—Perfumery, hair oils, pomades, cosmetics, flavoring extracts. T 47. 203
- 185 Young, Ladd, & Coffin, New York, N. Y.**—Perfumes, oil of cologne, California water. T 48. 203
- 186 Chesebrough Manufacturing Co., New York, N. Y.**—Vaseline, pomades, cerates, ointments, perfumes, cold cream, etc. P 43. 203
- 187 Lorenz Bros., Toledo, O.**—Concentrated perfumes. P 47. 203
- 188 Da Costa, D. R., Philadelphia, Pa.**—Tooth wash. P 48. 203
- 189 Tallmadge & Co., New York, N. Y.**—Essential oils and fluid extracts. P 48. 203
- 190 Fritzsch, Schimmel, & Co., New York, N. Y.**—Essential oils and artificial fruit essences. P 47. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Perfumery, Toilet Articles, Explosive Compounds, Pottery.

- 191 Bell, R. W., & Co., Buffalo, N. Y.—Staple and toilet soaps. T 46. 203
- 191a Hotchkiss, L. B., Phelps, N. Y.—Peppermint, spearmint, wintergreen, and pansy essential oils. P 47. 203
- 192 Taylor, C. R., & Co., Philadelphia, Pa.—Toilet soaps and perfumery. P 47. 203
- 193 Blair's, H. C., Sons, Philadelphia, Pa.—Toilet articles. T 47. 203
- 194 Colgate & Co., New York, N. Y.—Fancy soaps and perfumery. P 47. 203
- 195 Watson, Richard H., Philadelphia, Pa.—Handkerchief extracts. De Vies's quadruple handkerchief extracts. These celebrated extracts are produced with great skill, from the finest articles known in perfumery, and for delicacy of perfumes, truthfulness to nature, and tenacity, they are particularly recommended; they are guaranteed to be of quadruple strength, and warranted not to turn rancid. Although not old extracts, they have taken favor immediately, and the best proof of their quality is their large and constantly increasing sales. A trial will convince you. P 47. 203
- 196 Hoyt, E. W., & Co., Lowell, Mass.—Cologne. P 47. 203
- 197 Read, Wm. H., Baltimore, Md.—Cologne, tooth wash, perfumeries. P 47. 203
- 198 Worsley, Thos., & Co., Philadelphia, Pa.—Toilet and fancy soaps, and toilet powders. P 47. 203
- 199 Wright, R. & G. A., Philadelphia, Pa.—Extracts, cologne, cosmetics, pomades, oils, dentifrices, toilet soaps, etc. P 47. 203
- 200 Wolf Brothers & Keech, Centreville, Mich.—Essential oils. P 47. 203
- 201 Aschenbach & Miller, Philadelphia, Pa.—Flavoring extracts and perfumery. P 47. 203
- 202 Fricke, Arthur, Philadelphia, Pa.—Perfumery. P 47. 203
- 203 Burnett, Jos., & Co., Boston, Mass.—Flavoring extracts, cologne water, and other toilet articles. P 48. 203
- 204 Colton, J. W., Westfield, Mass.—Colton's select flavoring extracts of choicest fruits and spices. They are strictly pure, rich flavors of the fruits, and are great saving in actual cost, to all. In a sale of thousands of gross, not one particle of coloring or adulteration has ever been used. P 43. 203
- 205 Hale & Parshall, Lyons, N. Y.—Essential oils. P 47. 203
- 206 Atwood, Hermon W., New York, N. Y.—Cologne. The proprietor takes pride in comparing this product of home manufacture with the best imported colognes. Delicacy of fragrance is combined with lasting and invigorating qualities. P 47. 203
- 207 Mitchell, Geo. E., Lowell, Mass.—Cologne. N 51. 203
- 207a California Distilling Co., New York, N. Y.—Essential oils and fruit extracts. P 48. 203
- 208 Hambleton, J., & Son, Philadelphia, Pa.—Bay rum, pomades, cosmetics, colognes, extracts, hair tonics, etc. P 43. 203
- 209 Weaver, James B., Philadelphia, Pa.—Cologne, Florida water, bay rum. T 49. 203
- 209a Oriental Powder Mills, Boston, Mass.—Imitation samples of military, sporting, and blasting powder. P 43. 204
- 210 Barber Match Co., Akron, O.—Drawing-room and sulphur matches. T 44. 204
- 211 Toy, Bickford, & Co., Simsbury, Conn.—Safety fuses. T 45. 204
- 211a Du Pont de Nemours, E. I., Wilmington, Del.—Powder canisters and saltpetre. T 40. 204
- 212 Laffin & Rand Powder Co., New York, N. Y.—Gunpowder, empty packages, patent cartridges for mining, fuses, crude materials. N 62. 204
- 212a Zennig, R. H., & Co., New York, N. Y.—Wax matches and tapers. P 43. 204
- 213 Hazard Powder Co., Hazardville, Conn.—Sporting and blasting gunpowder. H 71. 204
- 214 Willis, Aug. L., Philadelphia, Pa.—Pyrotechnic fog signals. H 71. 205
- 214a Harris, H. G., New York, N. Y.—Balloon signals. H 68. 205
- Ceramics — Pottery, Porcelain, Glass, etc.**
- 215 Galloway & Graff, Philadelphia, Pa.—Terra-cotta statuary, vases, tazzas, pedestals, fountains, flower pots, garden edging, etc. B 72. 206
- 216 Neukumet, Philip, Philadelphia, Pa.—Fire bricks, clay retorts, gas-house tiles, and ornamental building brick. X 56. 206
- 216a Burns, Russell & Co., Baltimore, Md.—Pressed brick masonry. Y 60. 206
- 217 Moorhead Clay Works, Philadelphia, Pa.—Terra-cotta sewer and water pipes, drain and roofing tiles, garden vases, chimney tops, and flues. (Outside.) 206
- 218 Harvey & Adamson, Philadelphia, Pa.—Drain and sewer pipe, garden vases, statuary, chimney tops, flues, etc. B 72. 206
- 218a Davis & Chaddock, Boston, Mass.—Fire bricks. Y 61. 206
- 219 Remmey, Richard C., Philadelphia, Pa.—Chemical apparatus for manufacturing acids. B 68. 206
- 220 Gossin, F., Philadelphia, Pa.—Terra-cotta ware, statuary, vases, fountains, pedestals, etc. B 69. 206
- 221 Bowman, O. O., & Co., Trenton, N. J.—Terra-cotta drain and sewer pipe, chimney tops, and flues; garden vases and statuary. B 71. 206
- 221a Alexander, J. Park, Akron, O.—V 63. 206
a Fire brick. 206
b Stone ware. 210
- 222 Fritz, John, Philadelphia, Pa.—Terra-cotta work, hanging baskets, rustic flower pots, vases, fern cases, etc.; imitation gas logs. B 69. 206
- 222a Ogden, Isaac, Newark, N. J.—Drain pipe. Y 55. 206

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 4

Pottery, Porcelain.

- 223 Scioto Fire Brick Co., Sciotoville, Ohio.**—Fire bricks and fire clays. V 61 to 64. 206
- 223^a Dover Fire Brick Co., Canal Dover, O.**—Fire brick. T 63. 206
- 223^b Boynton, C. W., & Co., Woodbridge, N. J.**—Under-drainage tile, hollow building brick, and garden borders. Y 54. 206
- 224 Ambruster, John, Camden, N. J.**—Pressed brick work. X 58. 206
- 225 Union Mining Co., of Allegheny county, Md.**—Fire brick. X 58. 206
- 226 Wood Brothers, Hartford, Conn.**—Drain tiles. W 53. 206
- 227 Hinvest, Robt., New York, N. Y.**—Clamp and band for securing masonry, hollow brick for ventilation, chimney top. (*Outside.*) 206
- 227^a Scattergood, W. W., Rancocas, N. J.**—Drain tile. X 56. 206
- 227^b Brick Enameling Co., Philadelphia, Pa.**—Enameled bricks. U 48. 206
- 227^c Richardson, Geo., Milwaukee, Wis.**—Artif. Stone and Pipe. T 51 & X 57. 206
- 228 Hews, A. H., & Co., North Cambridge, Mass.**—Flower pots, fancy earthenware, garden vases, ferneries, battery jars, etc. B 69. 206
- 229 Hall, A., & Son, Perth Amboy, N. J.**—Brick used in chimney of New Jersey State Building. 206
- 230 Maurer, Henry, Perth Amboy, N. J., and 418 to 422 East Twenty-third street, New York, N. Y.**—Roofing tiles used upon the New Jersey State Building. Cheap, light in weight, thoroughly fire-proof, perfectly water-tight. 206
- 231 American Kaolin Co. Works, New Garden, Chester Co., Pa.; office, 233 South Third street, Philadelphia, Pa.**—Fire brick, tile, etc. X 58. 206
- 232 Wassel Fire Clay Co., Columbus, O.**—V 63. 206
^a Terra-cotta work. 206
^b Fire brick. 207
- 233 Kreischer, B., & Son, Philadelphia, Pa.**—X 56. 206
^a Fire bricks, tiles, blocks, and slabs. 206
^b Clay gas retorts, furnaces, and muffles. 207
- 233^a Newton & Co., Albany, N. Y.**—X 56. 206
^a Fire brick. 206
^b Stove linings, heater fire-brick linings, portable clay furnaces. 207
- 233^b Friese, C., Philadelphia, Pa.**—Statuary, vases, stumps, flower pots, hanging baskets, etc. T 76. 206
- 234 Hall, A., & Sons, Perth Amboy, N. J.**—T 59. 206
^a Diamantine front and fire bricks. 206
^b Street paving blocks. 208
^c Rockingham antique and yellow ware. 210
- 235 Hicks, George C., & Co., Baltimore, Md.**—T 55. 206
^a Terra-cotta pipe, vase, clays, etc. 206
^b Fire bricks, gas retorts. 207
^c Tiles. 208
 Standard fire-clay gas retort, made from the renowned Maryland fire clays, and remarkable for refractivity, tenacity, and freedom from gathering carbon. Fire clays, all from within the city limits of Baltimore. 210
- 236 Walker, N. U., Wellsville, O.** (*Outside.*) 206
^a Sewer pipe, terra-cotta ware, chimney top and statuary. 206
^b Fire tiles, stove linings. 207
^c Roofing tile. 208
- 237 State of New Jersey, by Geo. H. Cook, State Geologist, New Brunswick, N. J.**—T 70. 206
^a Sewer and drain pipe; fine and common pottery. 206
^b Fire bricks. 207
^c Stoneware. 210
^d Window glass. 214
^e Apothecaries' and bottle glass. 215
- 237^a Hampton, Cutter, & Son, Woodbridge, N. J.**—T 64. 207
^a Fire brick. 207
^b White ware. 210
- 238 Dixon Crucible Co., Jersey City, N. J.**—Graphite crucibles, retorts, etc. P 72. 207
- 238^a Haws, A. J., Johnstown, Pa.**—Fire brick bottoms for blast furnaces, rolling mills, etc. Y 60. 207
- 239 McIlvaine Bros., Philadelphia, Pa.**—Foundry facings. P 43. 207
- 239^a Kier Bros, Pittsburg, Pa.**—Y 56. 207
^a Fire bricks. 207
^b Tiles. 208
- 240 Goebel, J., & Co., New York, N. Y.**—Clay and clay pots. T 57. 207
- 240^a Burlington Manufacturing Co., Burlington, Vt.**—Samples of tile floor. T 56. 208
- 240^b Peck, Kennedy, & Co., New York, N. Y.**—Clay roofing tile. (*Outside.*) 208
- 240^c Field, F. K., Philadelphia, Pa.**—Flagging and floor tiles. T 53. 208
- 241 Young's, Wm., Sons, Trenton, N. J.**—Crockery and porcelain hardware trimmings. T 74. 209
- 242 Empire China Works, James L. Jensen, Proprietor, Green Point, Brooklyn, E. D., N. Y.**—Porcelain, hardware and cabinet trimmings; also, patent lemon squeezers, wood frame, porcelain lined; porcelain blade knife sharpeners, etc. N 70. 209
- 243 Moore, Joseph H., Trenton, N. J.**—Earthenware. T 76. 210
- 244 Carr, James, New York, N. Y.**—White granite, majolica and parian ware. T 77. 210
- 244^a Laughlin Bros., East Liverpool, O.**—Ironstone china ware. T 75. 210
- 245 Davis, Isaac, Trenton, N. J.**—White granite and decorated crockery ware. T 75. 210
- 246 Jeffords, J. E., & Co., Philadelphia, Pa.**—Yellow, Rockingham, white-lined, buff-stone, majolica, and lava wares. T 77. 210
- 246^a Coxon & Co., Trenton, N. J.**—Earthenware. T 77. 210
- 247 Astbury & Maddock, Trenton, N. J.**—Earthenware for sanitary purposes; china and earthenware for general use. T 73. 210
- 248 Ott & Brewer, Trenton, N. J.**—White granite, porcelain, and parian wares, vases, figures, table and toilet goods. 210
 73.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-

Pottery, Porcelain, Glassware.

- 249 Thompson, C. C., & Co., East Liverpool, O.—Pottery ware. T 70. 210
- 250 Yates, Bennett, & Allen, Trenton, N. J.—Dinner, dessert, tea, and toilet sets; crockery ware. T 77. 210
- 252 Brunt, Bloor, Martin, & Co., East Liverpool, O.—American white granite dinner, dessert, tea, and toilet decorated ware. T 74. 210
- 252a Speeler Pottery Co., Trenton, N. J.—T 75. 210
 a Yellow and Rockingham fire-proof ware. 210
 b Biscuit ware. 212
- 253 Baggott, S. & W., East Liverpool, O.—Rockingham and yellow ware. T 75. 210
- 253a Glasgow Pottery Co., Trenton, N. J.—T 73. 210
 a Stone china and decorated ware. 210
 b Majolica ware. 211
- 254 American Crockery Co., Trenton, N. J.—Chamber sets and table ware of bisque, white granite, and stone china. T 73. 213
- 255 Greenwood Pottery Co., Trenton, N. J.—Ironstone china, decorated dinner and toilet sets. T 74. 213
- 256 Mercer Pottery Co., Trenton, N. J.—Plain and decorative earthenware and china. T 75. 213
- 256a Union Porcelain Works, Greenpoint, N. Y.—Porcelain ware. T 75. 213
- 257 Onondaga Pottery Co., Geddes, N. Y.—White granite, and decorated table and toilet ware. T 77. 213
- 258 Hambleton, J. & Son, Philadelphia, Pa.—Decorated porcelain plates, pitchers, barber mugs. P 43. 213
- 258a Bullock, Charles, Trenton, N. J.—China ware. T 77. 213
- 259 Lucas, John, & Co., Philadelphia, Pa.—Window glass. T 45. 214
- 260 Sallandrouse, S. P., Cincinnati, O.—Plate glass. P 43. 214
- 261 Cohansey Glass Manufacturing Co., Bridgeton, N. J.—N 49. 214
 a Under window glass. 214
 b Plates, vials, and demijohns. 215
- 262 Gilbert, F. A., New Haven, Conn.—Combination table. P 51. 217
- 262a Lambie & Sargent, New York, N. Y.—Adjustable table. P 51. 217
- 263 Klausbeck, Thomas, & Stewart, Philadelphia, Pa. (*Parfume de Paris*). 214
 a Window glass. 214
 b Glass shades. 210
- 264 Diamond Glass Co., Ravenna, O.—Double-thick glass from ground white sandstone, in windows of Ohio State Building. 214
- 265 Wenck & Co., New York, N. Y.—Atomizers. P 47. 215
- 265a Whitall, Tatum, & Co., Philadelphia, Pa.—Druggists', perfumers', confectioners', etc., glassware, fruit jars. N 49. 215
- 266 Holzer, Wm., Philadelphia, Pa.—Druggists', chemists', philosophical, and fancy glassware. N 52. 215
- 267 Young, Ladd & Coffin, New York, N. Y.—Perfume atomizers. T 48. 215
- 268 Pile, W. H., & Sons, Philadelphia, Pa.—Hydrometers, specific gravity bottles, graduated tubes, chemical thermometers, and analytical weights. N 50. 215
- 269 Caterson, Wm. M., Philadelphia, Pa.—Bottles for poisons. T 53. 215
- 270 Fox, H. C., & Sons, Philadelphia, Pa.—Druggists' and perfumers' glassware made from glass not containing lead. N 53. 215
- 271 Warner, Wm. R., & Co., Philadelphia, Pa.—Drug dispensing bottles. P 43. 215
- 272 Whitney Bros., Glassboro', N. J.—Green and other colored glassware, for druggists, chemists, etc. N 54. 216
- 272a Smith Bros., New Bedford, Mass.—Engraving and decorating of glass. N 51. 216
- 273 Boston & Sandwich Glass Co., Boston, Mass.—Glassware. Manufacturers of cut crystal chandeliers; rich cut glassware of every description, including the "Daniel Webster Punch Bowl." N 51. 216
- 273a Smith, H. J., & Co., Philadelphia, Pa.—Stained glass window of the "Crucifixion," the main figure after A. Durer's celebrated picture. (*North Gallery*). 216
- 274 New England Glass Co., East Cambridge, Mass.—Glassware. N 50. 216
- 274a Smith Bros., New Bedford, Mass.—Decorated vases, shades, globes, etc. N 54. 216
- 274b Jones, Thomas, New York, N. Y.—Ornamental cut and ground glass. N 49. 216
- 274c Hobbs, J. H., Brockunier, & Co., Wheeling, W. Va.—Soda-lime glassware. N 52. 216
- 275 Dobelmann, J. B., Greenpoint, N. Y.—Cut and engraved glassware. N 53. 216
- 276 Hartell & Letchworth, Philadelphia, Pa.—Gas globes, ornamental sheet glass, and Centennial devices. P 64. 216
- 277 Mount Washington Glass Works, New Bedford, Mass.—N 51. 216
 a Cut crystal floral fountain. T 45. 216
 b Crystal toilet table, prismatic candelabra, chandelier, vases, glassware. N 51. 216
- 278 La Belle Glass Co., Bridgeport, Ohio.—Table, bar, and lamp goods, cut and engraved ware. N 52. 216
- 279 Keystone Flint Glass Co., Pittsburg, Pa.—Pure lead glass, lamp chimneys, silvered glassware. N 51. 216
- 280 Bakewell, Pears, & Co., Pittsburg, Pa.—Pressed and blown crystal and opal glassware. N 51. 216
- 281 Ripley & Co., Pittsburg, Pa.—Imitation cut glassware, lamps, blown and bar goods cut and engraved. N 49 to 51. 216
- 282 Richards & Hartley Flint Glass Co., Pittsburg, Pa.—Crystal glass table ware lamps, etc. N 49 to 51. 216
- 284 Adams & Co., Pittsburg, Pa.—Flint and opal glassware. N 49 to 51. 216
- 285 Atterbury & Co., Pittsburg, Pa.—Lamps and glassware, gas and kerosene globes. N 49 to 51. 216

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Glassware, Furniture.

- 286 Excelsior Flint Glass Co., Pittsburg, Pa.—Glass lamp chimneys, silvered glass reflectors. N 49 to 51. 216
- 287 Rochester Tumbler Co., Pittsburg, Pa.—Glass tumblers. N 49 to 51. 216
- 288 Crystal Glass Co., Pittsburg, Pa.—Moulded or pressed crystal glass table ware, etc. N 49 to 51. 216
- 289 Central Glass Co., Wheeling, W. Va.—Pressed glassware. N 50. 216
- 290 Albertson, J. M., Norristown, Pa.—Window glass, glass shades; colored, obscured, and corrugated glass. N 51. 216

Furniture and Objects of General Use in Construction and in Dwellings.

- 291 Collender, H. W., New York, N. Y.—Billiard tables, cue stand and marker, pool boards and buffet. T 51. 217
- 291a Doremus, P. C., New York, N. Y.—Sofa bed and lounge. V 51. 217
- 291b Pottin Register Manufacturing Co., Philadelphia, Pa.—Parlor billiard table. P 57. 217
- 292 Mitchell & Rammelsburg Furniture Co., Cincinnati, O.—Rosewood bed and bureau, renaissance style; walnut dining furniture and hall stand, mediaeval style. P 60. 217
- 292a Collignon Bros., New York, N. Y.—Folding rocking chairs, settees, chairs. V 71. 217
- 293 Cole, Alexander, Manumuskine, N. J.—P 52. 217
a Iron and wood spring-bottom bedsteads. 217
b Sash fastener. 227
- 294 O'Hara, Chas. M., Philadelphia, Pa.—"Hygienic" chairs. P 53. 217
- 295a Miller, L. H., Baltimore, Md.—Fire and burglar proof safes. H 68. 217
- 296 Gardner & Co., New York, N. Y.—Chairs, settees, car and depot seats, etc. T 58. 217
- 296a New Haven Folding Chair Co., New Haven, Conn.—Portable folding chairs. T 59. 217
- 297 McKinley, John, Philadelphia, Pa.—Patent barbers' chairs. T 58. 217
- 297a Pabst, Charles, Philadelphia, Pa.—Sofa bed. P 52. 217
- 298 Allen & Bro., Philadelphia, Pa.—Furniture and interior decorations. P 54. 217
- 298a Reeves, S. H., & Co., New York, N. Y.—Spring bottom bed. P 52. 217
- 299 Adjustable Folding Chair Co., Pittsburg, Pa.—Adjustable folding chair. P 58. 217
- 299a Brady, E. W., Davenport, Ia.—Wooden slate window shades. T 52. 217
- 300 Henkels, Geo. J., Philadelphia, Pa.—Chamber furniture of wood from Independence Square; sofa beds. P 57. 217
- 300a Meriden Curtain Fixture Co., Meriden, Conn.—Curtain fixtures. P 53. 217
- 301 Smith & Campion, Philadelphia, Pa.—Parlor, dining-room, chamber, and library furniture. T 55. 217
- 301a Sawyer & Buckley, Meriden, Conn.—Chess and backgammon tables. P 53. 217
- 302 Hart, Clarence A., Philadelphia, Pa.—Military equipments, gold fringes, etc. B 78. 217
- 302a Krause, Frederick W., Chicago, Ill.—Gothic chairs. W 52. 217
- 303 Campbell, Wm., New York, N. Y.—Spring rollers for window curtains. T 52. 217
- 303a Harmon, J. C., Philadelphia, Pa.—Inlaid checker board. (*East Gallery*). 217
- 304 Delaware Chair Co., Delaware, O.—Double cane-seat chairs. T 58. 217
- 304a Stevens, C. A., & Alrich, W. H., Philadelphia, Pa.—Folding bedstead. P 54. 217
- 305 Phelps, Doremus, & Corbett, 264 and 266 Canal street, near Broadway, New York, N. Y.—W. T. Doremus' patent chair base, patent rubber springs for oscillating chairs, patent oscillating rubber-spring chairs. Being combinations, affording manufacturers a wide range in the production of chairs for office, library, or parlor use. P 53. 217
- 305a Smith, Wm. B., New York, N. Y.—Improvement in counter show case. N 41. 217
- 306 Moore, York, & Howell, Philadelphia, Pa.—Parlor furniture, folding tables. T 54. 217
- 306a Shroeder, F. & H., Cincinnati, O.—Pulpit, with sounding board. P 47. 217
- 307 Loth, Henry, Philadelphia, Pa.—Folding table. P 51. 217
- 307a Spofford, Jennie H., Philadelphia, Pa.—Mattress bracket holders, mosquito bar. P 50. 217
- 308 Ferrari, Guiseppe, New York, N. Y.—Cabinet, richly carved, in Italian style of fifteenth century. P 58. 217
- 308a Brigg, M., & Son, Rochester, N. Y.—Fire and burglar proof safes. H 71. 217
- 309 Everitt, Elisha E., Philadelphia, Pa.—Portable and stationary washstand and writing desk combined; sofa bed. P 56. 217
- 309a Claes & Co., St. Louis, Mo.—Silver-plated show case. T 60. 217
- 310 Schubeuter, J., St. Louis, Mo.—Silver-plated show case. T 60. 217
- 311 Spiral Elliptic Spring Works, Cincinnati, O.—Springs for upholstering. P 53. 217
- 311a Brunswick Bros., Stephani, & Hart Co., St. Louis, Mo.—Billiard table and cue rack. T 54. 217
- 312 Woven Wire Web Bed Co., New Britain, Conn.—Woven wire bed bottom. P 53. 217
- 313 Kneil, Geo., Philadelphia, Pa.—Sofa bed, invalid chair and bed, rocking reclining chair, chair and lounge, photographic chairs. T 59. 217
- 313a Adams, Dan., Nashville, Tenn.—Hat-rack and chairs made of wood from "The Hermitage," the old home of Andrew Jackson. V 72. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture and Decoration.

- 314 Carrington, De Zouche, & Co., Philadelphia, Pa.**—Interior decorations, traverse curtain fixture. P 56. 217
- 315 Sheppard, Arrison, & Sheppard, Philadelphia, Pa.**—Curtains, decorations, and upholstered furniture. P 53. 217
- 316 Marcotte, L., & Co., New York, N. Y.**—Library (Henry II.) and dining-room (Louis XIII.) furniture. T 52. 217
- 317 Lever Spring Bed Co., Springfield, O.**—Spring bed. P 52. 217
- 318 Lamb, J. & R., New York, N. Y.**—Church furniture, metal work, embroideries, and decorations. P 43. 217
- 319 Heiligmann & Bro., Philadelphia, Pa.**—Solid wood cabinet carvings. P 57. 217
- 320 Wakefield Rattan Co., Boston, Mass.**—Rattan furniture and ornamental ware. T 57. 217
- 321 White, Otis C., Hopkinton, Mass.**—Stationary and portable headrests for chairs and car-seat backs. This is a new mechanical combination of simple construction, which affords a complete opposition movement of great range, to all positions, without removing the head from the upholstery, and fastened by a single clamp. The portable kinds fold up to take but little space, make their own fastening to almost any form where support to the head is desired; they are simple, elegant, and thoroughly practical. Correspondence and orders solicited. T 59. 217
- 322 Lambie & Sargent, New York, N. Y.**—Adjustable table. P 51. 217
- 323 Herta & Co., New York, N. Y.**—Chamber suite, carved amaranth, ebony, and maple woods; upholstery, Horsfall's dressing-case wardrobe. P 54. 217
- 324 Cutter, Ephraim, Cambridge, Mass.**—Adjustable chair for supine postures. N 58. 217
- 324a Russell, W. P., & Co., Charleston, S. C.**—Show case in form of a ledger. P 74. 217
- 325 Kaiser & Herzog, 1005 Walnut street, Philadelphia, Pa.**—Decorative painting for ceilings and side walls, in the modern renaissance style, executed after original designs by the firm. P 56. 217
- 326 Steele, John, Louisville, Ky.**—Folding opera chairs; church, lawn, and school seats. T 58. 217
- 327 Kimbel & Cabus, New York, N. Y.**—Parlor furniture and decorations. P 56. 217
- 328 Vaill, E. W., Worcester, Mass.**—Patent folding chairs, in great variety. Business established 1861. I claim for my chairs durability, thoroughness of finish, simplicity in folding, and compactness when folded. Very extensive assortment of styles, adapted for parlor, drawing-room, library, veranda, and shipboard; also, a line suitable for tropical climates. On account of limited space allotted, am compelled to make a comparatively meagre exhibit. T 57. 217
- 329 Cutler, A., & Son, Buffalo, N. Y.**—Business desks, reading tables, patent automatic folding parlor tables. P 53. 217
- 330 Turner, Henry A., & Co., Boston, Mass.**—Sofas and chairs. B 68. 217
- 331 Koechling, B. H., New York, N. Y.**—Opera folding chairs. P 51. 217
- COLLECTIVE EXHIBIT OF THE SCHOOL OF DESIGN, UNIVERSITY OF CINCINNATI, OHIO. (South Gallery). 217**
- 331a Whittemore, R. R.—Laocöon.**
- 331b Woodward, W. W.—Fugitive Slave.**
- 331c Humphreys, Ella.—Illumination and frescoed ceiling.**
- 331d De Camp, Essie.—Panel**
- 331e Rettig, John.—Centre for ceiling and border for wainscoting.**
- 331f Merrill, Susie.—Panel centre.**
- 332 Seymour, H. J., Chair Co., Troy, N. Y.**—Bent chairs, patent braided chairs and rockers, walnut dining and library chairs. T 58. 217
- 333 Cooper, Jas. W., & Bro., Philadelphia, Pa.**—Fancy cabinet ware, wood carvings, etc. P 57. 217
- 334 Stiles, Mrs. E. W., Philadelphia, Pa.**—Combination desk. P 50. 217
- 335 Karcher's, Daniel M., Sons, Philadelphia, Pa.**—Sideboard. P 60. 217
- 336 Yandell, Chas. R., & Co., New York, N. Y.**—Leather window lambrequins, embossed wall leather hangings, leather chairs and tables. P 52. 217
- 337 Schrenkeisen, M. & H., New York, N. Y.**—Upholstered rocking chair on castors. P 53. 217
- 338 Kilian Brothers, New York, N. Y.**—Easels, parlor table, music stand, table, card receiver. P 51. 217
- 339 Schastey, Geo. A., New York, N. Y.**—Furniture and interior decorations. P 58. 217
- 340 Brown & Bliss, 189 Canal street, New York, N. Y.**—Dining-room furniture, extension tables, sideboards, etc. Special manufacturers and exporters of dining-room furniture "en suite," including extension tables of every description, with patent slides and patent screw-leg corner block, also sideboards and side tables with leaves of extension table enclosed within. T 50. 217
- 341 Palmer, Theo. J., New York, N. Y.**—Rocking or reclining chair on castors. P 53. 217
- 342 Kittle, S. P., No. 203 Canal street, New York, N. Y.**—Spring mattresses for under-mattress, or with mattress and bolster combined, and made to fold compactly for transportation, when desired; also, spring mattresses with straight frame and elastic edges; others so constructed that both sides and all the edges are alike elastic and most comfortable. A moderate outlay in these goods will insure a most exquisite bed. P 52. 217
- 343 Schenck, Jas. V., New York, N. Y.**—Crescent spring mattress. P 51. 217
- 344 Paton, Robt., & Son, New York, N. Y.**—Church and school furniture, Sunday-school and lecture-room settees. P 54. 217
- 345 Postawka, L., & Co., Cambridgeport, Mass.**—The "X" piano taboret. P 60. 217
- 346 Roach, J. Chandler, Philadelphia, Pa.**—Spring bedstead. P 52. 217

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Furniture.

- 347 Deetz, Edward, Philadelphia, Pa.**—Adjustable sleeping apartment or retiring room. P 57. 217
- 348 Reeves & Eastburn, Philadelphia, Pa.**—Folding bedstead, sofa or parlor bedstead, chamber furniture, bedstead fastening. P 56. 217
- 349 Ahrens, Geo., Crete, Ill.**—Extension table. T 50. 217
- 350 Briggs, Joshua, Peterborough, N. H.**—Piano stools. P 51. 217
- 351 Taylor, W. O., & Son, Bedford, O.**—Double cane-seat rockers and chairs. T 59. 217
- 351a National Wire Mattress Co., New Britain, Conn.**—Wire mattresses. P 53. 217
- 352 United States Spring Bed Co., Springfield, Mass.**—Spring beds. P 52. 217
- 353 Chormann, E. G., Philadelphia, Pa.**—Parlor, sketching, and studio easels. P 50. 217
- 354 Griendling, John, 213 N. Second street, Philadelphia, Pa.**—Barber's chair, foot-rest, and hair-dressing standard. This chair is easily regulated for shaving and hair-cutting combined. An examination will satisfy any one of its merits. P 51. 217
- 354a Maires & Reed, New York, N. Y.**—Adjustable iron chairs. P 50. 217
- 355 Matlack, Henry S., Philadelphia, Pa.**—Paper hanging and fresco painting. P 50. 217
- 355a Gale, D. A. T., Syracuse City, N. Y.**—Metallic spring webbing mattress. P 50. 217
- 356 Berkey & Gay Furniture Co., Grand Rapids, Mich.**—Chamber suite, lounges. P 59. 217
- 356a Excelsior School Furniture Manufacturing Co., Cincinnati, O.**—Church furniture. T 52. 217
- 357 Phoenix Furniture Co., Grand Rapids, Mich.**—Bed-room suites, sideboard, hall stand. P 57. 217
- 358 Wooton Desk Co., Indianapolis, Ind.**—Cabinet office secretary, rotary office desk. P 52. 217
- 359 Nelson, Matter, & Co., Grand Rapids, Mich.**—Chamber suites. P 58. 217
- 359a Peck, Henry, New York, N. Y.**—Show cases for various exhibitors. 217
- 360 Junge, Albert, Pittsburg, Pa.**—Spring mattress. P 53. 217
- 361 Pabst, Daniel, Philadelphia, Pa.**—Walnut sideboard. P 58. 217
- 362 Richmond, Backus, & Co., Detroit, Mich.**—Combined coupon and local railroad ticket case, with secretary and desk. P 58. 217
- 363 Fyler, E. W., Philadelphia, Pa.**—Bedstead. P 53. 217
- 364 Halm, Bellows, & Butler, Columbus, O.**—Furniture. P 50. 217
- 365 Buschor, Chas., Philadelphia, Pa.**—Parlor furniture, decorations, window blinds with cornice, curtains, and outside shutters; show cases. P 56. 217
- 366 Vollmer, G., Philadelphia, Pa.**—Furniture. T 54. 217
- 367 Thole, B., St. Louis, Mo.**—Book case. P 59. 217
- 368 Swasey, I. N., M.D., Yonkers, N. Y.**—Billiard tables; Trichorium table, a new principle in carpentry, securing a permanently level surface, and new built up work samples from the French Manufacturing Co. of New York City. T 51. 217
- 369 Hover, H. F., Philadelphia, Pa.**—Folding wardrobe and lounge. P 50. 217
- 370 Most, John H., Old Saybrook, Conn.**—Furniture made from wood of the "Charter Oak," Hartford, Conn. P 62. 217
- 371 Snyder, C. Ridgway, Minneapolis, Minn.**—Work table, combining lap board and writing desk. P 50. 217
- 372 Caulier, F., Philadelphia, Pa.**—Wardrobe bedstead. P 54. 217
- 373 Pottier & Styms Manufacturing Co., New York, N. Y.**—Bedstead, cabinet, bahut, table, door, door trimming, window cornice, curtains, sofa, chairs. P 55. 217
- 374 Schafft, Fridolin, Detroit, Mich.**—Sideboard. P 60. 217
- 375 Ransom, D. L., & Co., Buffalo, N. Y.**—Adjustable desks and business cabinets, can be adjusted to any position, at any moment, without disarranging any books, papers, etc. Five different styles, for private and general offices. Send for circular. T 50. 217
- 376 Wagan, R. M., Mount Lebanon, N. Y.**—The Shakers' web-seated chairs, also with web backs, or with plush cushions, and foot-benches to match. The only manufacturer of the "Genuine Shakers' Chairs." P 52. 217
- 376a Killgore, J. L., Wilmington, Del.**—Tourists' and miners' folding bedstead and spring bed. W 54. 217
- 377 Hutchings, E. W., & Son, New York, N. Y.**—Sideboard and chair. P 59. 217
- 378 Demarest, Joyce, & Co., New York, N. Y.**—Opera chairs. V 51. 217
- 379 Centennial Rolling Chair Co., Philadelphia, Pa.**—Rolling chairs. (Nave.) 217
- 380 Cunningham, Peter B., Bethlehem, Pa.**—Anthracite coal table, from Council Ridge coal fields, Luzerne county, Pa. T 53. 217
- 380a Nichols, W., Boston, Mass.**—Book rack. P 47. 217
- 381 Fifield, J. B. M., Philadelphia, Pa.**—Magic bed sofa. T 58. 217
- 382 Beard & Bro., St. Louis, Mo.**—Burglar proof safes. B 70. 217
- 383a Hassenforder, C., Philadelphia, Pa.**—Safes. H 71. 217
- 384 Lord, J. E., & Co., Quincy, Ill.**—Spring bed bottom. P 52. 217
- 385 Goodwin, A. J., Brookline, Mass.**—Sanitary bedstead. P 52. 217
- 386 Hill, Edwin P., Haverhill, Mass.**—Folding table. P 50. 217
- 387 Ivins & Bro., Philadelphia, Pa.**—Walnut bed. P 53. 217
- 388 Seidler & May, Hartford, Conn.**—Sofa bed and adjustable extension chair. P 52. 217
- 389 Hopper, C. C., Philadelphia, Pa.**—Chamber furniture. P 57. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Safes.

- 390 Andrews, A. H., & Co., Chicago, Ill.**—T 67.
a School, church, office, and bank furniture; desks, pews, pulpits, chairs. 217
b Marquetry flooring. 217
- 391 Coburn Manufacturing Co., Philadelphia, Pa.**—Canopy wardrobe and wardrobe arm. P 51. 217
- 392 Rhoner, Frank, & Co., New York, N. Y.**—Reclining chairs. P 53. 217
- 393 Close, Thos. J., Philadelphia, Pa.**—Reversible settees. N 63. 217
- 394 Allen, Jas. T., & Co., New York, N. Y.**—Rockers. W 54. 217
- 395 De Bock, Matthew, South Boston, Mass.**—Cabinet, work table, and frame. P 51. 217
- 396 Paine's Furniture Manufactory, Boston, Mass.**—Pulpit and church furniture, case of designs. T 60. 217
- 397 Brunswick, J. M., & Balke Co., Chicago, Ill.**—Billiard tables and materials; ivory and ten-pin balls. T 51. 217
- 398 Collins & Sturgeon, New York, N. Y.**—Reclining chair. T 53. 217
- 399 Ellin, Robt., & Co., New York, N. Y.**—Eagle lecturn carved in oak, side-board, font, hall chairs, and litany desk. P 52. 217
- 400 Morse, L., & Son, Athol, Mass.**—Folding settee. P 51. 217
- 401 Hartshorn, Stewart, New York, N. Y.**—Window-shade rollers. T 51. 217
- 402 Glenn, Frank, Philadelphia, Pa.**—American buffet. B 41 to 44. 217
- 403 Walter Heywood Chair Co., Fitchburg, Mass.**—Chairs. Adapted for export to every foreign port and the home trade. T 59. 217
- 404 Whitney Manufacturing Co., South Ashburnham, Mass.**—Chairs. W 50. 217
- 405 Sawin, L. H., Gardner, Mass.**—Cane-seat chairs. W 52. 217
- 406 French, Julia B., Boston, Mass.**—Cabinet and bedstead. N 60. 217
- 407 Decker, L., & Co., New York, N. Y.**—Billiard tables and appurtenances. P 54. 217
- 408 Heywood Brothers & Co., Gardner, Mass.**—Cane and wood seat and rattan chairs, rattan furniture, chair cane, reeds, etc. W 50. 217
- 410 Derby, Philander, Gardner, Mass.**—Cane-seat chairs. Manufacturer of, and dealer in, all varieties of cane and wood-seat chairs for home and export trade. W 51. 217
- 411 Rath, Paul, New York, N. Y.**—Bay-window curtain, screen, and pedestal. P 41. 217
- 411a Wilson, George, Chicago, Ill.**—T 50.
a Folding bedstead and table combined, and recumbent reading chair. 217
b Mangle. 225
- 412 Watson, J., & Son, Philadelphia, Pa.**—Safes, ladies' jewelry stand. H 72. 217
- 413 Hall's Safe and Lock Co., Cincinnati, O.**—Fire, burglar, and fire and burglar proof safes, deposit vaults. H 67. 217
- 414 Herring & Co., New York, N. Y.**—Bank vaults and doors; fire and burglar proof safes. H 69. 217
- 415 Farrel & Co., Philadelphia, Pa.**—Fire and burglar proof safes. H 67. 217
- 416 Terwilliger & Co., New York, N. Y.**—Fire and burglar proof safes. H 72. 217
- 417 Corliss Safe Co., Providence, R. I.**—Burglar proof safes. H 67. 217
- 418 Valentine & Butler Safe & Lock Co., New York, N. Y.**—Burglar and fire proof safes. H 70. 217
- 419 Marvin's Safe Company, New York, N. Y.**—Safes. H 69. 217
- 420 Schermerhorn, Charles, New York, N. Y.**—T 50.
a Towel stand and rack. 217
b Mirror. 219
- 421 Thiery, Adolph, Philadelphia, Pa.**—P 51.
a Tables. 217
b Mirrors. 219
- 422 Dubernet, L., New York, N. Y.**—P 52.
a Bamboo and fancy fire-gilt furniture. 217
b Paper, velvet, metal, and gilt frames. 220
- 422a Feust & Rice, New York, N. Y.**—P 51.
a Cabinet ware. 217
b Mirror frames and brackets. 220
- 423 Speth, K. L., New York, N. Y.**—P 53.
a Fancy cabinet ware. 217
b Carvings, easels, pedestals, brackets, mosaic veneer, etc. 220
- 424 Earle, James S., & Sons, Philadelphia, Pa.**—P 49.
a Gilt tables. 217
b Framed looking glasses, Venetian mirrors. 219
c Picture frames, brackets. 220
- 425 Lowe, A. C., Philadelphia, Pa.**—P 50.
a Gilt bouquet tables. 217
b Looking glasses. 219
c Picture frames. 220
- 426 Hale, Kilburn, & Co., Philadelphia, Pa.**—P 55.
a Folding bed and crib, flexible-seat chairs, spring beds. 217
b Looking glasses. 219
c Picture frames. 220
- 427 McClees, J. E., & Son, Philadelphia, Pa.**—T 49.
a Gilt chairs and tables. 217
b Mirrors. 219
c Fancy frames. 220
- 428 Salter, Jno. G., Philadelphia, Pa.**—P 50.
a Console tables. 217
b Mirrors. 219
c Cornices, portrait frames. 220
- 428a Smith, Eldridge J., Philadelphia, Pa.**—H 69.
a Adjustable desk, school desk and seat. 217
b Cooking utensil. 224
c Stair rods. 227
- 429 Reukauff, Geo. C., Philadelphia, Pa.**—P 52.
a Bouquet tables. 217
b Mirrors. 219
c Cornices, picture frames. 220
d Mantelpiece. 221
- 430 Tiffany & Co., New York, N. Y.**—Silver and plated ware, incrustations of metals. N 41. 217

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 27

THE FINEST CIGAR
(At six for 25 cents)
IN THE UNITED STATES,
THE "AROMA,"
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1012 & 1014 CHESTNUT STREET,

PHILADELPHIA.

Furniture, Table Furniture, Decoration.

- 430^a Mitcheson, Mrs. M. J., Philadelphia, Pa.—Moustache spoon. N 41. 218
- 431 Bailey & Co., Philadelphia, Pa.—Silver ware. N 43. 218
- 432 Caldwell, J. E., & Co., Philadelphia, Pa.—Silver ware. N 41. 218
- 433 Meriden Britannia Co., West Meriden, Conn.—Fine electro-plated table ware, articles of ornament and vertu. N 43. 218
- 434 Derby Silver Co., Derby, Conn.—Hard metal silver-plated table cutlery and morocco-cased plated goods. P 46. 218
- 435 Krider, Peter L., Philadelphia, Pa.—Sterling silver ware. P 43. 218
- 437 Reed and Barton, Taunton, Mass.—Electro-plated nickel, silver and white metal table and presentation ware. N 47. 218
- 438 Ledig, A., & Son, Philadelphia, Pa.—Silver and nickel-plated ware in hard metal. P 43. 218
- 439 Middletown Plate Co., Middletown, Conn.—Silver-plated ware. N 43. 218
- 440 Gorham Manufacturing Co., Providence, R. I.—Silver ware, fine plated ware, plate chests, silver and jewelry cases. N 41. 218
- 441 Manning, Bowman, & Co., West Meriden, Conn.—Nickel-plated ware. N 69. 218
- 442 Kann & Sons Manufacturing Co., Baltimore, Md.—Albata and britannia tea and tablepoons. P 43. 218
- 443 Robbins, Clark, & Biddle, Philadelphia, Pa.—Silver ware. N 43. 218
- 444 Meriden Silver Plate Co., West Meriden, Conn.—Silver-plated and fine cut glass ware. N 43. 218
- 445 Holmes, Booth, & Haydens, Waterbury, Conn.—Silver-plated ware. T 61. 218
- 447 Mix, G. I., & Co., Yalesville, Conn.—Tea and tablepoons; planished and britannia tea and coffee pots, water coolers, etc. N 71. 218
- 448 Hall, Elton, & Co., Wallingford, Conn.—Electro-plated tableware, spoons, forks, ladles, knives, etc. P 43. 218
- 449 Sigler, C. & J., Paterson, N. J.—Embossed glass signs and table tops, glass letters, carved wood signs. T 49. 219
- 449^a Sallandrouze, S. P., Cincinnati, O.—Venetian mirrors and hand glasses. P 43. 219
- 450 Walker Glass Importing, Silvering, Manufacturing Co., New York, N. Y.—Venetian or crystal cut, engraved, distorting, and toilet mirrors. N 54. 219
- 450^a Sharp, Henry E., Son, & Colgate, New York, N. Y.—Stained glass windows. (*North Gallery*). 219
- 451 Florence Manufacturing Co., Florence, Mass.—Hand mirrors. B 70. 219
- 452 Newman, Geo. C., 806 Market street, Philadelphia, Pa.—P 51. 219
^a Looking glasses.
^b Lacquered mouldings (imitation of gold gilding) for picture frames and window cornices, and ornaments for same. This imitation of gilding is cheap and durable. 220
- 452^a Schier, H., New York, N. Y.—P 53.
^a Mirror. 219
^b Brackets and book rack. 220
- 453 Faser, Christian, Philadelphia, Pa.—P 49.
^a Looking glasses. 219
^b Picture frames. 220
- 454 Shaw, J. H., & Co., Philadelphia, Pa.—P 52.
^a Looking glasses. 219
^b Picture frames, mouldings. 220
- 455 Boland, Fred., Philadelphia, Pa.—P 50.
^a Looking glasses. 219
^b Pier cornices, picture frames. 220
^c Mantels. 227
- 456 Durand, Dominique, New York, N. Y.—Venetian looking glass. T 46. 219
- 457 Clark, C. W., Philadelphia, Pa.—Window shades, window shade cloth, and shade fixtures. T 52. 220
- 458 Johnston, Ed. S., Philadelphia, Pa.—Window shade rollers, window shades, lambrequins, cornices. T 53. 220
- 459 Gleason, W. B., & Co., West Camden street, opposite Chickering station, Boston, Mass.—Artificial wood ornaments for interior decoration, etc. Descriptive circulars will be found at the exhibit. O 78. 220
- 461 Reifschneider, Felix, New York, N. Y.—Velvet frames, morocco and velvet miniature cases. P 52. 220
- 462 Pape, Bros., & Kùgemann, Cincinnati, O.—Mouldings for picture frames, portrait and photograph frames. P 51. 220
- 463 Carter, A. A., Philadelphia, Pa.—Window screens. T 50. 220
- 464 Whittier, Reuben S., Hyde Park, Mass.—Window screen and mosquito bar. T 51. 220
- 464^a Shorey, John, & Co., Lowell, Mass.—Shade fixtures. T 52. 220
- 465 Kilgore, Damon Y., Philadelphia, Pa.—Inside window blinds. These blinds, adjustable, artistic, lowering from the top, light, combining beauty with economy, overcome all defects of Venetian blinds. Patented. T 53. 220
- 466 McKay, Ferd. C. D., Paterson, N. J.—Self-regulating shade rollers. T 51. 220
- 467 Nonnenbacher, John, & Co., New York, N. Y.—Gilt and imitation mouldings for picture frames and cornices. P 68. 220
- 468 Salem Shade Roller Manufacturing Co., Salem, Mass.—Control wood rollers, flying pawls, automatic stops for balance rollers. T 50. 220
- 469 Colwell, F. E., & Co., Chicago, Ill.—Mouldings and picture frames, shade fixtures. P 51. 220
- 470 Louderback, Edwin, Philadelphia, Pa.—Rustic window shades of wood. T 49. 220
- 471 Dickinson, Alfred S., New York, N. Y.—Spring roller and drop window shades, safety brackets, and pulley blocks. T 53. 220
- 472 Lloyd Bros., Philadelphia, Pa.—Ventilating shade fixtures. T 50. 220

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Furniture, Heating and Lighting Apparatus.

- 473 American Shade Roller Co., Boston, Mass.—Shade rollers, window shades, and fixtures. T 51. 220
- 474 Hewett, William, Philadelphia, Pa.—Self-operating swing carriage for parks and lawns. (*Outside.*) 221
- 474a Fisher, H., St. Louis, Mo.—Automatic swing. (*Missouri Building.*) 221
- 475 Beaudet, Homer J., Greenpoint, Long Island, N. Y.—Swing-convertible cradle. P 50. 221
- 476 Batley, John, Philadelphia, Pa.—Child's cradle or crib. P 51. 221
- 477 Rusk, Thos. J., Philadelphia, Pa.—Swing. (*In Park.*) 221
- 478 Providence Gas Burner Co., Providence, R. I.—P 47.
- a "Novelty" gas cooking stoves; ovens and heaters, burning without smoke or smell. 222
- b Gas burners, drop-light sockets, shade and globe holders, etc., manufactured from wrought brass. 223
- 478a Eldridge, G. Morgan, Philadelphia, Pa.—Automatic stove-damper. (*On stove pipe in Louisiana State Building.*) 222
- 479 Thackara, Buck, & Co., Philadelphia, Pa.—Gas fixtures, chandeliers, brackets, hall lights, reading lights, etc. N 60. 223
- 479a Miller & Eastmead, New York, N. Y.—Ship and railroad lanterns. P 47. 223
- 480 Cornelius & Sons, Philadelphia, Pa.—Gas fixtures, bronzes, etc. N 47. 223
- 480a New York Lamp Co., New York, N. Y.—Railroad and steamship lamps. P 47. 223
- 481 Bartlett, Jos. W., New York, N. Y.—Crystal and reflecting street lamps. N 50 and P 49. 223
- 481a Pennsylvania Globe Gaslight Co., Philadelphia, Pa.—Lanterns and apparatus for lighting streets. P 43. 223
- 482 Archer & Pancoast Manufacturing Co., New York, N. Y.—Gasoliers, centre slide chandeliers, ornamental bronzes, ecclesiastical metal work. N 47. 223
- 482a Kelly, S. S., Philadelphia, Pa.—Gas brackets, pendants, brass fittings, etc. T 45. 223
- 483 American Reflector Co., Philadelphia, Pa.—Gas and daylight reflectors, lanterns and shades. P 47. 223
- 483a Rollins, Geo. D., Philadelphia, Pa.—Automatic self-regulating gas burner. T 50. 223
- 484 Tucker, Hiram, & Co., Boston, Mass.—Iron gas chandeliers, brackets and statuettes. N 47. 223
- 484a Heywood, C. L., & Bruce, J. M., Boston, Mass.—Elevating street lamp; Bruce's vesper street lamp for towns, villages, and private grounds; patented by J. M. Bruce, December 22, 1874. Office, 4 Haymarket square. N 59. 223
- 485 Willheim & Newmann, Philadelphia, Pa.—Cast iron posts and brackets, street lanterns, mica reflectors, and car trimmings. N 48. 223
- 485a Henrichs, C. F. A., New York, N. Y.—Lamp with non-combustible wick and regulated burner; study lamps. N 47. 223
- 486 Quarre, V., Co., General Lithographers, 832 and 834 Arch street, Philadelphia, Pa.—Gas and lamp shades, and transparent window pictures. N 48. 223
- 486a Beidler, Geo. A., Philadelphia, Pa.—Lamp burners for use without chimneys. P 48. 223
- 487 Baker, Arnold, & Co., Philadelphia, Pa.—Gas fixtures. N 48. 223
- 488 Miner, Jacob G., New York, N. Y.—Street lamps for gas or oil. P 47. 223
- 489 Wilhelm, August, Philadelphia, Pa.—Ceiling reflectors. P 47. 223
- 490 Bradley & Hubbard Manufacturing Co., West Meriden, Conn.—Kerosene and gas chandeliers, brackets and fixtures, lamps. N 47. 223
- 491 Kramer, J. H., New York, N. Y.—Ornamental lanterns. P 47. 223
- 492 Walton Bros., New York, N. Y.—Railroad and steamship brass lanterns and supplies. P 47. 223
- 493 Dyott, M. B., Philadelphia, Pa.—Street lamps, brackets, posts, pendants, and lamp goods. P 48. 223
- 494 Miller, Edward, & Co., Meriden, Conn.—N 48.
- a Bronze lamps and ornaments, lamp trimmings. 223
- b Bronzes. 443
- 495 Hitchcock Lamp Co., Watertown, N. Y.—Lamps for animal, fish, or vegetable oils exclusively; no chimneys; burn twelve hours; fifteen car-candle power; odorless; smokeless; portable; for cars, shipping, factories, residences, etc. P 47. 223
- 496 Dreer, Smith, & Dreer, Philadelphia, Pa.—Berford gas-sunlight apparatus. P 47. 223
- 496a American Gas Screen Manufacturing Co., Haverhill, Mass.—Gas screens. (*West Gallery.*) 223
- 497 Atterbury & Co., Pittsburg, Pa.—Lamps. N 49 to 51. 223
- 498 Parkhurst, V. P., East Templeton, Mass.—Candle stand with flame regulator. P 47. 223
- 499 Williams, Page, & Co., Boston, Mass.—Railway and steamship lamps. P 47. 223
- 501 Mitchell, Vance, & Co., New York, N. Y.—Gas fixtures. N 49. 223
- 502 Ives Patent Lamp Co., New York, N. Y.—Kerosene lamps, brackets, chandeliers, and pendants, burners and attachments. P 47. 223
- 503 Stockwell Self-lighting Gas Burner Co., New York, N. Y.—Self-lighting gas burner. P 50. 223
- 504 Wiler, Wm., Philadelphia, Pa.—Taper holders, gas torches and keys, etc. N 71. 223

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Furniture, Construction of Buildings, Woven Goods.

- 505 Cleveland Non-explosive Lamp Co.**, Cleveland, O., and 42 Barclay street, New York.—Perkins & House's patent metallic kerosene or coal oil safety lamps and filling cans. Thousands of families now using this lamp testify to its superiority; because, 1st, it is perfectly safe from explosion, owing to its scientific structure; 2d, it will not break, being made of metal; 3d, it is rendered perfectly clean by its patent drip-cup; 4th, it uses a very small amount of oil, in proportion to the light it gives, without odor; 5th, it gives a brilliant light, in consequence of its peculiar construction. Our filling can is perfectly safe from explosion, owing to its scientific structure—a flame cannot be communicated to the oil in it, either by accident or design. N 64. 223
- 506 American Calcium Light Co.**, Philadelphia, Pa.—Calcium light apparatus. T 43. 223
- 507 The Mains Manufacturing Co.**, New York, N. Y.—Lamps. N 65. 223
- 508 Doty, H. H.**, Washington, D. C.—Concentric mineral oil burner. N 50. 223
- 509 Lovell, F. H., & Co.**, New York, N. Y.—Kerosene burners, chimneys, wicks, lamps, etc. P 50. 223
- 510 United States Soapstone Manufacturing Co.**, Cincinnati, Ohio.—P 77. 223
a Lava gas tips. 224
b Soapstone griddles. 224
- 512 Cohansey Glass Manufacturing Co.**, Bridgeton, N. J.—Fruit jars. N 49. 224
- 513 Lowentrant, P.**, Newark, N. J.—House furnishing goods. N 70. 224
- 514a Jones, J. Alonzo**, New York, N. Y.—Water cooler and refrigerator. N 43. 224
- 515 Lowerre & Tucker**, Newark, N. J.—Fluting machines. N 71. 225
- 517 Lloyd, Supplee, & Walton**, Philadelphia, Pa.—Fluting machines. P 70. 225
- 517a Blackie & Charles**, St. Louis, Mo.—Anti-freezing hydrant. (*Missouri State Building.*) 226
- 517b Wheeler, Wm. F.**, Boston, Mass.—Disinfecting devices. (*In use in Main Building.*) 226
- 518 Boughton, Jno. W.**, Philadelphia, Pa.—Wood carpet, parquet floors, and wainscots; adjustable window screens, and bars. T 56. 227
- 519 National Wood Manufacturing Co.**, 950 Broadway, New York, N. Y.—Wood carpeting, parquet and inlaid floors, ornamental hard-wood ceilings, fancy wainscoting, and stair coverings. Send 3 cent stamp for book of design. P 52. 227
- 519a Canopy Frame Co.**, Willimantic, Conn.—Portable folding canopy frames. P 56. 227
- 520 Johns, H. W.**, New York, N. Y.—Asbestos roofing, sheathing, and lining felts. P 47. 227
- 521 Ehret, M., jr.**, Office, 404 Walnut street, Philadelphia, Pa.—Pavilion situated south of Main Building, to exhibit patent fire and waterproof granulated slag (composition) roofing. State and county rights for sale. (*Outside.*) 227
- 521a Miller, J. Wesley**, Philadelphia, Pa.—Plumbing of eight rooms in Main Building. 227
- 522 Marion Blind Co.**, Brady, Pa.—Improved window blinds. T 53. 227
- 522a Reisinger Manufacturing Co.**, Harrisburg, Pa.—Sash locks, line holders, clothes hooks, cellar hoists, broom and wisp holders. P 68. 227
- 523 Walker, M. & Sons**, Philadelphia, Pa.—Heavy wrought iron gates at north, south, east, and west entrances of Main Exhibition Building. 227
- 523a Peck, Kennedy & Co.**, New York, N. Y. (*Outside.*)
a Flat floor, arch, and fire proof building material. 227
b Brick and tile machine. 517
c Radiator. 555
- 524 Fisher & Bird**, New York, N. Y.—Marble mantels, tablet, marble wainscoting. The white marble mantel is of pure American statuary; the black one is of the finest quality of velvet black, both designed and executed in the highest style of art, at our works, by American artisans. T 50. 227
- 525 Geddes, J. W.**, Baltimore, Md.—Skylight over south aisle. 227
- 526 Evans, C. B., Mantel & Grate Co.**, Cincinnati, O.—Iron mantels. T 68. 227
- 527 Garry Iron Roofing Co.**, Cleveland, O.—Sections of corrugated iron roof. (*Ohio State Building.*) 227
- 528 American Sheet & Boiler-Plate**, Cleveland, O.—Corrugated roofing iron and iron roofing tile. (*Ohio State Building.*) 227
- 529 House & Davidson**, Cleveland, O.—Pair front doors. (*Ohio State Building.*) 227
- 530 Dobbins, R. J.**, Philadelphia, Pa.—Construction of Main Exhibition Building. 227
- 531 Quigley, Philip**, Wilmington, Del.—Construction of Machinery Hall. 227
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 532 De Witt Wire Cloth Co.**, New York, N. Y.—Wire cord, rope, cloth, and work; dandy roll, cotton and wire fabrics. B 76. 228
- 533 Clinton Wire Cloth Co.**, Clinton, Mass.—Iron railing, wire cloth, netting, fencing, fire proof lath. T 68. 228
- 535 Woven Wire Mattress Co.**, Hartford, Conn.—Woven wire cloth used for a spring bed. P 53. 228
- 536 Wild, Jos. & Co.**, New York, N. Y.—Matting and mats of fibre of cocoanut husks. N 77. 229
- 537 Wakefield Rattan Co.**, Boston, Mass.—Mats and matting. T 57. 229
- 538 Irving Bros.**, Elwood, N. Y.—Japanese paper carpeting, waterproof building paper. N 75. 229
- 539 Garsed Bros.**, Frankford, Pa.—Awnings and tickings. N 73. 230
- 540 Farnum, John, & Co.**, Philadelphia, Pa.—Tickings from Conestoga steam mills, Lancaster, Pa. N 75. 230
- 540a Slater, Wm. S.**, Providence, R. I.—Bleached cotton goods. N 73. 230
- 541 Bailey, John T., & Co.**, Philadelphia, Pa.—Bags. B 68. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Woven Goods.

- 541^a Westport Manufacturing Co., Fall River, Mass.—Carpet warp and cotton batus. D 78. 230
- 542 Thornton, Samuel, & Sons, Philadelphia, Pa.—Cotton fabrics. N 76. 230
- 542^a Alabama & Georgia Manufacturing Co., West Point, Ga.—Sheeting. N 78. 230
- 543 Berkeley Co., Providence, R. I.—Nainsooks, Victoria lawns, and cambrics. These fabrics are noted for their quality and finish, and are manufactured from either Sea Island, Egyptian, or Peeler cotton. N 75. 230
- 543^a Slater Cotton Co., Providence, R. I.—Brown and bleached cotton goods. D 78. 230
- 544 Clark Thread Co., Newark, N. J.—Spool cotton. N 76. 230
- 544^a Sykes, Henry, Chicago, Ill.—Awnings and awning frames. Y 63. 230
- 545 Johnson, Emory, Neptune Twine Mills, Moodus, Conn.—Cotton seine twines, wetting cords, carpet warp, and knitting cotton, manufactured from superior stock and always of a uniform quality. Established in 1832. D 68. 230
- 546 Whitfield, F. E., Sen., Corinth, Miss.—Cotton yarns. N 75. 230
- 547 Semple, Samuel, & Sons, Mt. Holly, N. J.—Spool cotton. Manufacturers of Stuart's "Best six cord" and "Soft Enamelled" spool cotton. Stuart & Bro., sole agents, 13 Bank street, Philadelphia. N 74. 230
- 547^a Lawrence, Waterbury, & Co., New York, N. Y.—Ragging. D 78. 230
- 548 Walcott & Campbell, New York Mills, Oneida county, N. Y.—Shirtings, wide sheetings, cottonades, and knitting yarns. N 75. 230
- 548^a Lewiston Mills, Lewiston, Me.—Tickings, cottonades, cheviot shirtings, duckings, seamless cotton bags. R 78. 230
- 549 Westbrook Manufacturing Co., Portland, Me.—Ship's cotton duck. B 74. 230
- 549^a Lawrence Manufacturing Co., Lowell, Mass.—Bleached and unbleached cotton goods. N 75. 230
- 550 Powhatan Mills, Providence, R. I.—"Potomacs" and "Wealth of the Country" bleached and brown muslins, well adapted for family and shirt maker's use. N 74. 230
- 550^a Merrick Thread Co., Holyoke, Mass.—Ready wound bobbins for sewing machine needles. H 74. 230
- 551 Saratoga Victory Manufacturing Co., Boston, Mass.—Victoria cambrics, and fancy cottons. F 74 and 75. 230
- 551^a Cutler Manufacturing Co., Warren, R. I.—Hosiery, caps, yarns, carpet warp, knitting cotton. D 78. 230
- 552 Cheepee Manufacturing Company, Cheepee Falls, Mass.—Cotton fabrics, bleached and brown. F 74 and 75. 230
- 553 Frostdale Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 75. 230
- 553^a Great Falls Manufacturing Company, Roxbury, N. C.—Knitting cotton. N 75. 230
- 554 Peckham Manufacturing Company, Providence, R. I.—Kentucky jeans. B 76. 230
- 555 Androsoggin Mills, Lewiston, Me.—Sheeting, shirting, jeans, bags, etc. R 78. 230
- 556 Hill Manufacturing Company, Lewiston, Me.—Bleached and unbleached sheetings and shirtings. R 78. 230
- 557 Continental Mills, Lewiston, Me.—Sheetings and shirtings. R 78. 230
- 558 Barker Mills, Auburn, Me.—Bleached and unbleached sheetings. R 78. 230
- 559 Smith, James Y., Manufacturing Co., Providence, R. I.—Bleached and brown cotton goods. N 74. 230
- 560 Evansville Cotton Manufacturing Co., Evansville, Md.—Brown sheetings and drills, assorted yarns. N 74. 230
- 561 King Philip Mills, Fall River, Mass.—Brown and bleached sheetings, cambric muslins, and rolled jacquets. Selling agents, Whorton, Atkinson & Co., Philadelphia; Converse, Staunton & Co., Boston and New York; Turnbull, Sweet & Co., Baltimore. N 76. 230
- 562 Hope Company, Providence, R. I.—Shirting. N 74. 230
- 563 Lonsdale Company, Providence, R. I.—Sheetings, cambric muslin, silsias, jacquets, Victoria lawns, sateens. N 74. 230
- 564 Blackstone Manufacturing Company, Providence, R. I.—Print cloths shirtings, umbrella cloths. N 74. 230
- 565 Gambrill, Sons & Co., Baltimore, Md.—Cotton duck for sails, tents, and awnings. D 78. 230
- 566 Wamsutta Mills, New Bedford, Mass.—Shirting and sheeting. N 74. 230
- 567 Shaw, James G., New Castle, Del.—Single-carded cotton warps. N 74. 230
- 568 Riddle, Jas., Son & Co., Wilmington, Del.—Brandywine Mills tickings. N 74. 230
- 569 Wauregan Mills, Wauregan, Conn.—Cotton goods. N 74. 230
- 570 Ponemah Mills, Taftville, Conn.—Plain and fancy cotton goods. N 74. 230
- 571 Gabriel, Henry, & Sons, Allentown, Pa.—Counterpanes, bed coverlets, quilts, and bed spreads. F 68. 230
- 572 Stafford & Co., Providence, R. I.—Cotton yarns, hosiery cops, twilled goods. N 75. 230
- 573 Minot, Hooper, & Co., Boston, Mass.—Bleached cotton goods. F 69. 230
- 575 Farwell Mills, Lisbon, Me.—Bleached and brown cottons. R 78. 230
- 576 Morse, Kaley, & Co., Milford, N. H.—Knitting cotton. E 74. 230
- 577 Putnam Manufacturing Co., Providence, R. I.—Colored cotton goods. N 75. 230
- 577^a White, R. T., & Son, Philadelphia, Pa.—Rag carpet warps and cotton. D 78. 230
- 578 Chatham Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 75. 230

For location of objects indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 44

Woven Goods.

- 579 Bridge Mill Cotton Manufacturing Co., Providence, R. I.**—Bleached cotton goods. N 73. 230
- 580 Manville Co., Providence, R. I.**—Cotton goods, bleached and colored. N 73. 230
- 581 Ross, John L., Providence, R. I.**—Bleached, unbleached, and colored cotton goods. N 73. 230
- 582 Social Manufacturing Co., Providence, R. I.**—Brown, bleached, and colored cotton goods. N 73. 230
- 583 Warren Manufacturing Co., Warren, R. I.**—Bleached and colored cotton goods. N 73. 230
- 584 Peabody Mills, Providence, R. I.**—Colored cotton goods. N 73. 230
- 585 Dyerville Manufacturing Co., Providence, R. I.**—Brown and bleached cotton goods. N 73. 230
- 586 Ballou, Geo. C., & Son, Providence, R. I.**—Brown, bleached, and colored cotton cloth. N 73. 230
- 587 Silver Spring Bleaching & Dyeing Co., Providence, R. I.**—Bleaching, dyeing, and finishing the various grades and styles of cotton cloth. N 73. 230
- 588 Hooper, Wm. E., & Sons, Baltimore, Md.**—Awning stripes, cotton duck. D 78. 230
- 589 Boston Manufacturing Co., Boston, Mass.**—Cotton goods. B 76. 230
- 590 Cabot Manufacturing Co., Boston, Mass.**—Cotton goods. B 76. 230
- 591 Gale & Co., Boston, Mass.**—Lawn and other tents, canopies, and clothes dryer. (*Outside.*) 230
- 592 Greene & Daniels, Pawtucket, R. I.**—Ivory finish and six-cord spool cotton; gray, bleached, and dyed cotton yarns. N 76. 230
- 593 Fall River Bleachery, Fall River, Mass.**—Bleached cottons, shirtings, and sheetings. N 76. 230
- 594 Lowell Bleachery, Lowell, Mass.**—Bleached and colored cotton fabrics. N 73. 230
- 595 Amoskeag Manufacturing Co., Manchester, N. H.**—Tickings, denims, awning stripes, cotton flannels, ginghams, fancy shirtings, jeans, shirtings, sheetings, drillings. N 74. 230
- 596 Naumkeag Steam Cotton Co., Salem, Mass.**—Sateens, Pequot wide sheetings, bleached and unbleached, 5-4, 6-4, 7-4, 8-4, 9-4, 10-4; Naumkeag twilled sheetings, 8-4, 9-4, 10-4; Pequot, 36 inch and 40 inch; El Dorado, 36 and 40 inch sheetings. The product of these mills has a reputation for softness and durability, and for general excellence; the cotton used is especially selected with a view to securing these qualities, and the greatest care is used in their manufacture. N 74. 230
- 597 Massachusetts Cotton Mills, Lowell, Mass.**—Sheetings, shirtings, drillings, etc. N 73. 230
- 598 Tremont & Suffolk Mills, Lowell, Mass.**—Brown and bleached cotton flannels, twenty-six varieties, from the lightest to the heaviest grade, for summer, fall, and winter wear, from twenty-seven to thirty-six inches in width, superior in quality of material, grade, and finish; Suffolk drills, blue, brown and bleached. Sheetings, shirtings, and corset jeans. N 73. 230
- 599 Appleton Co., Lowell, Mass.**—Unbleached sheetings and drillings. N 73. 230
- 600 Boott Cotton Mills, Lowell, Mass.**—Brown and bleached cottons. N 73. 230
- 601 Shroder, F., & Co., New York, N. Y.**—Brown cottons, drills, and nankeens. B 75. 230
- 602 Nashua Manufacturing Co., Nashua, N. H.**—Brown and bleached cottons, cotton flannels, printings. N 77. 230
- 603 Jackson Co., Nashua, N. H.**—Heavy brown cottons. N 77. 230
- 604 Ocean Mills, Nashua, N. H.**—Brown and bleached cottons. N 77. 230
- 605 Shetucket Co., Norwich, Conn.**—Fancy stripes, denims, ducks, chevots. N 77. 230
- 606 Falls Co., Norwich, Conn.**—Cotton duck, fancy colored duck tickings. N 77. 230
- 607 The Utica Steam Cotton Mills, Utica, N. Y.**—Very heavy and fine brown and bleached sheetings and shirtings, from one to three yards wide. N 74. 230
- 608 Mount Vernon Co., Baltimore, Md.**—Duck and sail twine. Manufacturers of cotton sail duck, enameling duck, hose and belting duck, U. S. hammock, bag, and cot duck; machine apron, and a superior article of duck for paper-makers' felting; from seven to fifteen ounce army tent and awning duck, plain and in stripes; cotton canvas, from nine to one hundred and thirty inches wide; sail twine, all numbers. D 78. 230
- 609 Hadley Co., Boston, Mass.**—Cotton yarns and warps, spool cottons, threads; harness and seine twines. N 75. 230
- 610 Union Wadding Co., Providence, R. I.**—Cotton wadding, batting, and machinery waste. F 74. 230
- 611 Smith, H. E., & Co., Providence, R. I.**—Cotton yarns for hosiery, shawl, and carpet manufacture. N 74. 230
- 612 Richardson, C. D., & Co., Philadelphia, Pa.**—Tents. (*Outside.*) 230
- 613 Hale, B. S., & Co., Lawrence, Mass.**—Fish lines. N 75. 230
- 614 Laconia Company, Biddeford, Me.**—Sheetings, shirtings, drills, and jeans. R 78. 230
- 615 Pepperill Manufacturing Co., Biddeford, Me.**—Sheetings, shirtings, drills, and jeans. R 78. 230
- 616 Otis Company, Palmer, Mass.**—Denims. N 75. 230
- 617 Palmer Mills, Palmer, Mass.**—Dress goods. N 75. 230
- 617a Trainer, D., & Sons, Linwood Station, Pa.**—Cotton yarns and tickings. C 78. 230
- 618 Brinckerhoff, Turner, & Co., New York, N. Y.**—Duck, canvas, ravens, awning stripes, bags, twines, bunting. D 78. 230
- 619 Washington Manufacturing Co., Gloucester, N. J.**—Printing cloths, etc. N 75. 230
- 622 Monadnock Mills, Claremont, N. H.**—Quilts, counterpanes, and wide sheetings. H 78 and N 74. 230

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

Woven Goods.

- 623 American Linen Co., Fall River, Mass.—Printing cloths. B 77. 230
- 624 Annawan Manufactory, Fall River, Mass.—Printing cloths. B 77. 230
- 625 Barnard Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230
- 626 Border City Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 627 Chace Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 628 Flint Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 629 Granite Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 630 Mechanics Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 631 Merchants Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230
- 632 Metacomet Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 633 Narragansett Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 634 Osborn Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 635 Richard Borden Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230
- 636 Sagamore Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 637 Shove Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 638 Slade Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 639 Stafford Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 640 Tecumseh Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 641 Troy Cotton and Woolen Manufactory, Fall River, Mass.—Printing cloths. B 77. 230
- 642 Wampanoag Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 643 Weetamoe Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 644 Dwight Manufacturing Co., Chicopee, Mass.—Brown and bleached sheetings and shirtings. F 69. 230
- 645 Lyman Mills, Holyoke, Mass.—Brown and bleached sheetings and shirtings, drills, lawns, cambrics, cotton flannels, etc. F 69. 230
- 646 Great Falls Manufacturing Co., Great Falls, N. H.—Bleached and brown sheetings and shirtings. F 69. 230
- 647 Schum, Philip, Lancaster, Pa.—Coverlets and counterpanes. Well known manufacturer of genuine Lancaster quilts, coverlets, counterpanes, carpets, cradle, bureau and tidy covers, stocking yarns, woolen carpet chains, etc. All kinds of dyeing done. These goods being all of my own manufacture, made of the very best of material, I guarantee them as represented and to give entire satisfaction in every respect. G 78. 230
- 647a Wood, Wm., & Co., Philadelphia, Pa.—Coronades. B 77. 230
- 648 Methuen Mill, New York, N. Y.—Jute bagging. F 70. 230
- 649 Webster Mills, New York, N. Y.—Jute bagging. F 70. 230
- 650 Nevins Mill, New York, N. Y.—Jute bagging. F 70. 230
- 651 Mississippi Mills, Wesson, Miss.—Yarns, cotton, cottonades. F 76. 230
- 652 Bullock, George & James M., Conshohocken, O.—Cotton warp. F 75. 230
- 653 Wortendyke Manufacturing Co., Wortendyke, N. J.—Lamp wicks and cotton yarns. N 75. 230
- 654 Moss Manufacturing Co., West-erly, R. I.—Shirtings. N 74. 230
- 655 Harris Manufacturing Co., Providence, R. I.—Bleached shirtings. The "Gem of the Spindle" exemplifies the limit of fineness consistent with durability. N 74. 230
- 656 Knight, B. B., & R., Providence, R. I.—Bleached cotton goods. N 75. 230
- 657 Glasgow Company, South Hadley Falls, Mass.—Ginghams, yarns. N 74. 230
- 658 Allendale Company, Providence, R. I.—Bleached shirtings and sheetings. N 74. 230
- 659 Groton Manufacturing Co., Philadelphia, Pa.—Bleached goods. N 74. 230
- 660 Franklin Manufacturing Co., Providence, R. I.—Bleached cottons. N 74. 230
- 662 Tucker, Carter, & Co., New York, N. Y.—Bagging. B 69. 230
- 663 Renfrew Manufacturing Co., South Adams, Mass.—B 75. 230
a Cotton warps, shirtings. 230
b Ginghams. 231
c Cotton dress goods. 232
- 664 Gloucester Gingham Mills, Gloucester City, N. J.—N 76. 230
a Cottonades, shirtings. 230
b Ginghams, dress goods. 231
- 665 Langdon Manufacturing Co., Manchester, N. H.—Brown and bleached shirtings; fine brown and bleached G. B. shirtings. N 74. 230
- 666 Whittenton Manufacturing Co., Taunton, Mass.—N 76. 230
a Cottonades, shirtings, tickings, denims, and awnings. 230
b Dress goods and fancy checks. 231
- 667 York Manufacturing Co., Saco, Me.—Geo. C. Richardson & Co., selling agents, Boston and New York. N 74. 230
a Cottonades light and heavy, ticking 28 inches by 32 inches wide, denims plain, striped, and plaid; shirtings and shirtings. 230
b Dress goods, in great variety; nankins, and seersuckers. 231
- 668 Everett Mills, Lawrence, Mass.—B 73. 230
a Fancy cottons, cottonades, ticking, denims, chevrot. 230
b Stripes, ginghams, dress goods. 231
- 669 Davoll Mills, Fall River, Mass.—Selling agents, Wharton, Atkinson & Co., Philadelphia; E. C. Whitman, New York. N 76. 230
a Sheetings, pillow muslins, shirtings, sil-
sias. 230
b Fancy cotton fabrics. 230

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 41

Woven Goods, Felting, Yarn.

- 670 Hamilton Manufacturing Co.,** Lowell, Mass.—N 73.
a Tickings, drillings, and canton flannels. 230
b Printed and dyed calicoes, shirting and awning stripes. 232
- 671 Holt, R., Paterson, N. J.**—N 74.
a Cotton and Turkish towels, terry cloth, dusters, etc. 230
b Linen towels. 233
- 672 Stark Mills, Manchester, N. H.**—N 74.
a Seamless bags, sheetings, and drills, over-all and double ducks. 230
b Linen crash toweling. 233
- 673 Millville Manufacturing Co.,** R. D. Wood & Sons, Philadelphia and New York, sole agents.—F 75.
a Bleached shirtings, cambrics, silesias. 230
b Printed linings, umbrella cloths, velums. 231
c Window holland, tillotings, etc. 233
- 674 Bates Manufacturing Co.,** Lewiston, Me.—R 78.
a Shirtings, skirtings, quilts, jeans, towels, knitting cotton, etc. 230
b Gingham, damask, silesias. 232
c Linen checks. 233
- 675 Ripka & Elton Mills, Philadelphia,** Pa.—Cotton manufactures. N 74. 231
- 676 Lancaster Mills, Clinton, Mass.**—Fancy gingham. N 77. 231
- 677 Belfast Mills, Philadelphia, Pa.**—Gingham. N 76. 231
- 678 Albion Print Works, Conshohocken, Pa.**—Solid colors suitings, plain blacks, grays, mourning prints, shirtings, and printed articles for men. N 73. 232
- 678a Pacific Mills, Lawrence, Mass.**—B 73.
a Calicoes. 232
b Lawns, percales. 233
- 679 Hartel, Andreas, & Co.,** Pennypack Print Works, Philadelphia, Pa.—Madder and fancy prints and shirtings. N 75. 232
- 680 Brown, David S., & Co.,** Philadelphia, Pa.—Madder fancies, shirtings and mournings from Gloucester Manufacturing Co., Gloucester, N. J.; aniline, alezarine, oil, and madder colors and shirtings from Ancona Printing Co., Gloucester, N. J. N 77. 232
- 681 Simpson, Wm., & Sons, 126** Chestnut street, Philadelphia, Pa.—Calico prints in mourning, fancy, and shirting styles. Manufacturers and calico printers of the popular alpaca finish, solid blacks, Berlin solids of all colors, aniline blacks, mourning prints, silver grays, Eddystone chocolates, hair cloth chevils, and fancy prints. These styles are all fast colors, and are printed exclusively on the best extra 64 square cloth. N 75. 232
- 682 Pretty, Grime, & Co.,** Philadelphia, Pa.—Calico prints. N 74. 232
- 683 Green, S. H., & Sons, Clyde** Bleachery and Print Works, River Point, R. I.—Printed calicoes. N 74. 232
- 684 Richmond Manufacturing Co.,** Providence, R. I.—Printed calicoes. N 75. 232
- 685 Manchester Mills, Manchester, N. H.**—Prints. N 73. 232
- 686 American Print Works, Fall** River, Mass.—Printed calicoes, percales, cambrics, shirtings, indigo blues, greens, robes, seersuckers, etc. Special styles and colorings printed for export. N 75. 232
- 687 Hamilton Woolen Co., South-**bridge, Mass.—Prints, shirting prints, printed cambrics. N 74. 232
- 688 Merrimac Mills, Lowell, Mass.**—Printed and dyed calicoes. N 73. 232
- 689 Stevens Linen Works, New York,** N. Y.—Plain and twilled linen crashes, and diapers. B 75. 233
- 690 Barbour Flax Spinning Co., Pat-**erson, N. J.—Flax threads. N 76. 233
- 690a American Linen Thread Co., Me-**chanicville, Saratoga county, N. Y.—Flax, gilling, and machine threads, warp, filling, and twines. Manufacturers of patent linen thread (on spools and in skeins) of all kinds, numbers, and colors; also, gilling thread, of all numbers; machine, shoe, carpet, fringe, whip, and McKay threads, in all varieties; linen floss, selvage, and hose warp; hose filling, broom and brush twines; pink and variegated twines; loom cord; line and tow yarns. All manufactured from the best foreign stock. H 75. 233
- 691 McCrossan & Farr, New York,** N. Y.—Printed linen and cotton, and white cotton handkerchiefs. N 76. 233
- 692 American Linoleum Manufactur-**ing Co., New York, N. Y.—Linoleum floor cloth. N 77. 234
- 694 Blabon, Geo. W., & Co., Philadel-**phia, Pa.—Floor, carriage, upholstery, and table oil cloths and window shades. N 77. 234
- 696 Virolet & Durlach, Elizabeth, N.** J.—Floor oil cloths. F 73. 234
- 698 Potter, Thos., Sons & Co., Phila-**delphia, Pa.—Oil cloths. N 77. 234
- 700 Brasher, Wm. M., & Co., Brook-**lyn, N. Y.—Floor oil cloths. F 71. 234
- 701 Reeve, R. H. & B. C., Camden,** N. J.—Oil cloths. F 71. 234
- 702 Powers, D., & Sons, New York,** N. Y.—Floor oil cloths. F 77. 234

Woven and Felted Goods of Wool and Mixture of Wool.

- 703 Shaffner & Stringfellow, Phila-**delphia, Pa.—Knitting cotton and Germantown wool. B 75. 235
- 703a Knox Woolen Co., Camden, Me.**—Paper makers' feltings and machinery cloths. R 78. 235
- 704 Bacon, Chas. N., Winchester,** Mass.—Felts for polishing, printing, erasing, etc.; cotton and wool wadding. N 74. 235
- 705 New England Co., Rockville,** Conn.—Fine fancy cassimeres, finest wool, fine spinning, indigo colors. The first mill in America to make fancy cassimeres. B 76. 235
- 705a Noske, Henry, Philadelphia, Pa.**—Woolen felts. F 72. 235
- 706 Philadelphia Worsted Spinners' Association, Philadelphia, Pa.**—Worsted yarns. F 75. 235

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven and Felted Goods.

- 707** Midnight Yarn Co., Philadelphia, Pa.—Woolen knitting and Germantown yarns, representing process of manufacture. B 77. 235
- 708** Thornton, Samuel, & Sons, Philadelphia, Pa.—Woolen fabrics. N 76. 235
- 709** Phillips, James, jr., Fitchburg, Mass.—Fine worsted coatings and suitings. Hunt, Curtis, & Valentine, sole agents, 127-129 Franklin street, New York, N. Y. B 77. 235
- 709a** Kirkman, James, Chester, Pa.—Doeskins. B 76. 235
- 710** Ledward, J., & Son, Chester, Delaware county, Pa.—Cassimeres and doeskins. B 76. 235
- 711** Horstmann, Wm. H., & Sons, Philadelphia, Pa.—Woolen knitting yarns. These goods are known generally as Germantown, balm-wool, cashmere, saxonia, and stocking yarns. They are particularly noted for brilliancy of colors, variety of shades, evenness of thread, and the low prices at which they are sold. H 73. 235
- 712** Globe Woolen Co., New York, N. Y.—Fancy cassimeres. F 74. 235
- 713** Dryfoos, L., & Co., New York, N. Y.—Felt skirts, embroidered and braided; Italian cloth skirts, trimmed and quilted. B 77. 235
- 713a** Kent Woolen Co., Centreville, R. I.—Cassimeres. B 74. 235
- 713b** Stillwater Woolen Mills, Stillwater, R. I.—Cassimeres. B 74. 235
- 714** Worumbo Manufacturing Co., Lisbon Falls, Me.—Moscow beaver and other overcoatings. R 76. 235
- 715** Bel Air Manufacturing Co., Pittsfield, Mass.—Fancy all-wool cassimeres. F 73. 235
- 716** Burlington Woolen Co., Winooski Fall, Vt.—Woolens, castorines, moscovs, kerseys, broadcloths, doeskins, elastic doeskins, elysians. F 73 and 74. 235
- 717** Broad Brook Co., Broad Brook, Conn.—Fancy cassimeres. F 75. 235
- 718** Weybosset Mills, Providence, R. I.—Fancy cassimeres. Samples of regular production made for the general market. Wendell Hutchinson & Co., New York, selling agents. F 74. 235
- 719** Howard, R., & Son, Apponang, R. I.—Woolen stocking yarns, fancy and plain colors. B 75. 235
- 719a** State of Oregon by A. J. Dufur.—Woolen fabrics. H 71. 235
- 720** Wanskuck Co., Providence, R. I.—Worsted coatings, overcoatings, kerseys. B 75. 235
- 721** Rodman, Robt., La Fayette, R. I.—Doeskins. N 75. 235
- 722** Sawyer Woolen Mills, Dover, N. H.—Silk and wool cassimeres, fancy cassimeres, double and twist cassimeres. F 75. 235
- 722a** Clinton Mills Co., Norwich, Conn.—
a Tweeds and repellents. 235
b Blankets. 237
- 723** Hinsdale Bros., Hinsdale, Mass.—Kerseys, beavers, worsted suitings, etc. B 74. 235
- 724** Rockville Manufacturing Co., Rockville, Conn.—Fancy cassimeres and worsteds. B 74. 235
- 725** Hockanum Co., Rockville, Conn.—Fancy cassimeres and worsteds. B 74. 235
- 727** Eddy's, Jesse, Sons, Fall River, Mass.—Woolens for men's wear. F 74. 235
- 728** U. S. Bunting Co., Lowell, Mass.—Bunting, flags, worsted damasks and moorings, skirtings, and dress buntines. H 75. 235
- 729** Middlesex Co., Lowell, Mass.—Woolen goods. B 77. 235
- 729a** Shuler & Benninghofen, Hamilton, O.—Felts for paper-makers. B 76. 235
- 729b** Uxbridge Woolen Co., Uxbridge, Mass.—Cassimeres. B 74. 235
- 730** Germania Mills, Holyoke, Mass.—Escimo, doeskins, and fur beavers, overcoatings. C 76. 235
- 731** Norway Plains Co., Rochester, N. H.—Blankets. B 73. 235
- 732** Norwich Woolen Co., Norwich, Conn.—Blankets and repellents. B 73. 235
- 733** Union Manufacturing Co., Wolcottville, Conn.—Black doeskins. B 73. 235
- 734** Meriden Woolen Co., West Meriden, Conn.—Fancy cotton warp cassimeres and coatings. B 73. 235
- 734a** Baltic Woolen Mills, Philadelphia, Pa.—Woolen goods. F 72. 235
- 735** Niantic Woolen Mills, Norwich, Conn.—Suitings and repellents. B 73. 235
- 736** Mason, C. F., & Co., Providence, R. I.—Fancy cassimeres. B 76. 235
- 737** Wood, Morrell, & Co., Woodvale Woolen Mills, Johstown, Pa.—Cassimeres made from half-blood wool. B 77. 235
- 738** Kirkman, James, Chester, Pa.—Doeskins. B 76. 235
- 740** Peirce, C. W. & J., Bristol, Pa.—
a Polishing felts and crumb cloths. 235
b Skirts. 238
- 741** Mississippi Mills, Wesson, Miss.—Wool fillings, jeans, cassimeres, tweeds, linseys. F 76. 235
- 742** Bullock, Geo. & Jas. M., Conshohocken Woolen Mills, Conshohocken, Pa.—Doeskins, muscovs, beavers, cloth. F 75. 235
- 743** Fox, Henry, & Co., Urbana, O.—
a Cassimeres, tweeds, satinets, and yarns. 235
b Flannels. 236
- 744** Belfast Mills, Philadelphia, Pa.—
a Cheviots. 235
b Dress goods. 238
- 745** Roy, Jas., & Co., West Troy, N. Y.—
a Suitings and yarns. 235
b Woolen shawls. 237
- 746** Fay, C. J., Camden, N. J.—
a Felt roofing and siding. 235
b Ceiling and floor carpeting. 239

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 1

Woven Goods.

- 747 McKee, Jos. D., Penn Knitting Mills, Philadelphia, Pa.—N 74.**
a Cloths, fancy woolen goods. 235
b Worsted shawls. 237
- 748 Bates Manufacturing Co., Lewiston, Me.—R 78.**
a Beavers and repellents. 235
b Dress goods. 238
- 749 Lippitt Woolen Co., Providence, R. I.—B 73.**
a Elysian beaver overcoatings, fancy cassimeres, and suitings. 235
b Flannels. 236
- 750 Peace Dale Manufacturing Co., Peace Dale, R. I.—F 77.**
a Cassimeres, coatings, lastings, etc. 235
b Woolen shawls. 237
- 751 Schofield, Seville, Philadelphia, Pa.—B 74.**
a Piece goods and coatings. 235
b Blankets. 237
- 752 Camden Woolen Mills, Philadelphia, Pa.—B 76.**
a Woolen goods, cassimeres, suitings, cloakings, repellents. 235
b Plaid opera flannels. 236
c Dress goods, etc. 238
- 753 Piqua Woolen Mills, F. Gray, O'Ferrall & Co., Piqua, O.—B 75.**
a Paper-makers' foundriner and cylinder wet and press felts and jackets, for all kinds of paper. All felts warranted. 235
b Flannels. 236
c Blankets. 237
- 754 Washington Mills, Lawrence, Mass.—F 73 and 74.**
a Worsted coatings, cloakings, and repellents. 235
b Flannels. 236
c Worsted goods, shawls, and dress goods. 238
- 755 Landenberger's, Martin, Sons, Philadelphia, Pa.—F 67.**
a Worsted coatings and yarns. 235
b Shawls. 237
c Dress goods. 238
- 756 Dobson, Jno. & Jas., Philadelphia, Pa.—H 77.**
a Cloths. 235
b Blankets. 237
c Carpets. 239
- 757 Steffan, F., & Co., Philadelphia, Pa.—H 76.**
a Coatings. 235
b Shawls. 237
c Worst dress goods. 238
- 758 Pontoosuc Woolen Manufacturing Co., Pittsfield, Mass.—F 76.**
a All-wool cloths and repellents. 235
b Sleeping car blankets and summer dusters. 237
c Dress goods. 238
d Carriage rugs. 239
- 759 Belvidere Woolen Manufacturing Co.—Flannels. F 74.** 236
- 761 Ballard Vale Mills, New York, N. Y.—Fine white flannels. B 77.** 236
- 762 Waumbeek Co., New York, N. Y.—Plain white flannels. B 77.** 236
- 763 Norway Plains Co., New York, N. Y.—Plain white flannels. B 77.** 236
- 764 Lucas, B., & Co., New York, N. Y.—Plain white domets and Shakers. B 77.** 236
- 765 Groveland Mills, New York, N. Y.—Scarlet, yellow, and blue plain flannels, scarlet and blue twilled flannels, scarlet Shaker opera flannels. B 77.** 236
- 766 Columbia Spring Co., New York, N. Y.—Fancy flannels. B 77.** 236
- 767 Stott, C. H. & F. H., New York, N. Y.—Mixed twilled flannel. B 77.** 236
- 768 Titus, E., & Sons, New York, N. Y.—White and Shaker flannels. B 77.** 236
- 770 Gilbert, Geo. H., Manufacturing Co., Ware, Mass.—F 72.**
a Flannels—white, opera, silk warp, plaid, moleskin, swansdown, gauze, medicated, etc. 236
b Blankets. 237
- 771 Bachman, S., New York, N. Y.—Shawls. B 75.** 237
- 771a Sandford Mills, Sandford, Me.—Carriage robes. R 78.** 237
- 772 Gibson & Tyler, New York, N. Y.—Fine white blankets. B 77.** 237
- 772a Bloodgood, Mrs. I. S., New York, N. Y.—Embroidered afghans. N 52.** 237
- 773 Waterloo Woolen Manufacturing Co., Waterloo, N. Y.—Woolen shawls. B 77.** 237
- 773a Bishop & Northrup, Wyandotte, Mich.—Woolen robes, mats, and dusters. F 71.** 237
- 774 Mission Woolen Mills, San Francisco, Cal.—B 75.**
a Blankets. 237
b Woolen fabrics. 238
- 775 Arlington Mills, Lawrence, Mass.—Black alpacas, in ten qualities; black mohair brillantines, in five qualities; figured mohair brillantines, in two qualities; and roubaix poplins, in assorted colors. The black alpacas and mohair brillantines are "warp dyed," and are made from the choicest materials, in the most thorough manner. Especial attention is invited to the softness of finish, brilliancy of color and lustre, uniformity and perfection of manufacture. The roubaix poplin is a "yarn dyed" fabric,—not dyed in the piece,—consequently, the strength of the fibre is preserved, and the color made more permanent than if "piece-dyed." The peculiarity of the finish is such that the goods will not cockle. F 77.** 238
- 775a Pacific Mills, Lawrence, Mass.—Poplins, alpacas, serges, cashmeres, reps, jacquards, cretonnes, jaconets, and cr pe. B 73.** 238
- 776 Peckham Manufacturing Co., Providence, R. I.—Woolen and merino knitting yarns, tweeds, doeskins. B 76.** 238
- 777 Manchester Mills, Manchester, N. H.—Worst dress goods. N 73.** 238
- 778 Turner, John, Norwich, Conn.—Dyed and printed worsted, woolen, and cotton yarns, for weaving, knitting, etc. B 77.** 238
- 779 Tunxis Mills, Poquonnock, Conn.—White and colored worsted yarns; process of manufacture from raw wool. B 76.** 238
- 780 Farr Alpaca Co., New York, N. Y.—Alpacas, serges, cashmeres, fancy linings. B 74.** 238
- 781 Hamilton Woolen Co., Southbridge, Mass.—Delaines, reps. N 74.** 238

For classes of exhibits, indicate by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Carpets, Silk.

- 782 Wood, Wm., & Co., Philadelphia, Pa.**—Wool mixture suitings. B 77. 238
- 782a Chapman & Bros., Belfast, Me.**—Dry goods. N 76. 238
- 783 Walshaw, Wm., Saxonville, Mass.**—Colored wool and yarns. F 69. 238
- 783a White, Payson & Co., Boston, Mass.**—Cotton and worsted textile fabrics. N 73. 238
- 784 Lowell Manufacturing Co., Boston, Mass.** F 77. 238
 a Serges and lastings. 238
 b Wilton and Brussels, two and three ply ingrain carpeting. 239
- 785 Blake, C. H. & F. D., New York, N. Y.** Alpaca, mohairs, cashmeres, and worsted serges. B 75. 238
- 786 Wood & Haslam, Camden, N. J.** H 77. 238
 a Turkey red yarn. 238
 b Quilts, table cloths. 241
- 787 Smith, Alex., & Sons Carpet Co., Yonkers, N. Y.**—Power loom, Axminster, tapestry Brussels, and tapestry ingrain carpetings. F and H 73 to 76. 239
- 787a McCallum, Crease, & Sloan, Philadelphia, Pa.**—Ingrain carpets. H 75. 239
- 788 Wentworth, C. B., & Co., Boston, Mass.**—Stars quilted carpet lining. F 75. 239
- 788a Hutchison, J. & H., Brooklyn, N. Y.**—Rugs and mats. O 78. 239
- 789 Gibb & Co., Philadelphia, Pa.**—Rug carpet. F 77. 239
- 789a Seffarien & Frits, Philadelphia, Pa.**—Carpet wares. F 77. 239
- 790 Dornam, Bros. & Co., Philadelphia, Pa.**—Ingrain carpets and damask. F 77. 239
- 790a Mayall, Miles, Boston, Mass.**—Carpet hangings and stair pads. D 78. 239
- 791 Bromley, Jno., & Sons, Philadelphia, Pa.**—Ingrain and damask Venetian carpets. H 77. 239
- 791a Bailey, Edw. H., New York, N. Y.**—Carpet lining and stair pads. F 78. 239
- 792 Leedom, Shaw, & Stewart, Philadelphia, Pa.**—Carpetings. F 77. 239
- 792a Lewis, Willard, Walpole, Mass.**—Carpet hangings. D 78. 239
- 793 Chapman, Geo. W., & Co., Boston, Mass.**—Carpet lining and stair pads. F 78. 239
- 794 Taylor, Jas., & Muller, S. N., New York, N. Y.**—Rug and rug carpet. F 78. 239
- 795 National Carpet Co., Hartford, Conn.**—Rugs, carpets, and stair pads. F 78. 239
- 796 Wagon, E. M., Mount Lebanon, Pa.**—Carpet hangings and stair pads. F 78. 239
- 797 Jones, David, & Mayer, Philadelphia, Pa.**—Carpet hangings and stair pads. F 78. 239
- 798 F. & W. Carpet Co., Boston, Mass.**—Carpet hangings and stair pads. F 78. 239
- 799 F. & W. Carpet Co., Boston, Mass.**—Carpet hangings and stair pads. F 78. 239
- 800 Roxbury Carpet Co., Boston, Mass.**—Tapestry carpeting. F and H 73 to 76. 239
- 801 Read Carpet Co., Bridgeport, Conn.**—Two ply ingrain carpets. H 77. 239
- 802 Farrington & Kinsey, Rahway, N. J.**—Wool extracted from rags. B 76. 240
- 803 Pawtucket Hair Cloth Co., Pawtucket, R. I.**—Automatically woven hair cloths for upholstery. B 74. 240
- Silk and Silk Fabrics, and Mixtures in which Silk is the predominating Material.**
- 804 Belding Bros. & Co., Rockville, Conn.**—H 74. 242
 a Twisted silk in gum, raw silk, cocoons. 242
 b Machine twists; sewings, embroidery, and saddlers' silks; buttonhole twist. 243
- 805 Aub, Hackenburg, & Co., Philadelphia, Pa.**—H 76. 242
 a Raw silk and cocoons. 242
 b Machine and buttonhole twist, sewing and spool silk. 243
- 806 Franke, Louis, New York, N. Y.**—H 74. 242
 a Thrown silk. 242
 b Silk fringes, passementerie, braids, cords, tassels. 249
- 806a Boissiere, E. V. de, Williamsburg, Kansas.**—H 74. 242
 a Silk cocoons, raw silk, and silk-worm eggs, produced in Kansas. 242
 b Velvet ribbons. 248
- 807 Hamil & Booth, Paterson, N. J.**—H 76. 242
 a Raw and thrown silks. 242
 b Dress goods, tie silks. 245
 c Ties. 247
 d Ribbons. 248
- 808 Seavey, Foster, & Bowman, Boston, Mass.**—H 75. 242
 a Cocoons, raw silk. 242
 b Twisted silk. 243
- 808a Newman, Joseph, San Francisco, Cal.**—H 75. 242
 a Cocoons, raw silk, silk-worm eggs. 242
 b Silk flags. 247
- 809 Werner, Itchner, & Co., Philadelphia, Pa.**—Silk ribbon fabrics. H 74. 243
- 810 Reinhard, Armstrong, & Co., offices, 40 Broadway, New York; 301 Market street, Philadelphia; 25 German street, Baltimore.**—Spool and stem silks, for families, merchant tailors' clothing manufacturers and shoe manufacturers. Hand-loomed costumes furnished to retailers. Having no western or southern office, we will make liberal arrangements with dealers or responsible parties wishing to act as agents for these sections. H 75. 243
- 811 Hoyer, F. S., Philadelphia, Pa.**—Sewing silks and machine cotton. H 75. 243
- 812 Hoyer, F. S., Philadelphia, Pa.**—Sewing silks and machine cotton. H 75. 243

Silk, Clothing.

813 Cheney Brothers, Hartford and South Manchester, Conn.—H 75.

a Twist. 243

b Spun silks and spun silk fabrics. 244

c Dress goods, serges, florentines, and foulards. 245

d Organzine, tram, and handkerchiefs. 247

e Ribbons. 248

814 Atwood & Richmond, Brooklyn, Conn.—Ounce silk machine twist, black and colors. H 77. 243

815 Nonotuck Silk Co., Florence, Mass.—Black and colored machine twist, buttonhole twist, embroidery and sewing silk. H 74. 243

816 Hayden, J. H., & Son, Windsor Locks, Conn.—Black sewing silk. H 76. 243

817 Heminway, M., & Sons Silk Co., New York, N. Y.—Spool, embroidery, and saddlers' silk; machine and buttonhole twist, etc. H 73. 243

818 Holland Manufacturing Co., Willimantic, Conn.—Silk machine twist and sewing silk. H 74. 243

819 Baare, Fred., Paterson, N. J.—Millinery, tie, and umbrella silks. H 77. 244

820 Strange, Wm., & Co., Paterson, N. J.—H 73.

a Millinery and dress silks. 245

b Ribbons. 248

821 Dexter, Lambert, & Co., New York, N. Y.—H 73.

a Silk piece goods. 245

b Ribbons. 248

c Dress trimmings. 249

823 Wright, Wm. P., Philadelphia, Pa.—Oiled silks and muslins. H 76. 245

825 Weidmann & Greppo, Paterson, N. J.—Dyed silk, blacks and colors. H 76. 246

826 American Silk Label Manufacturing Co., 389 Broome street, New York, N. Y.—Names of signers of Declaration of Independence, labels, and other designs, woven in silk; for clothiers, merchant tailors, and hatters. H 77. 246

827 Meyenberg, S. M., Paterson, N. J. Office, 40 Lispenard street, New York.—N 74.

a Upholstery satins. 246

b Ladies' silk scarfs, sewing silk veils; millinery silks and gauze fabrics. 247

828 Stearns, Jno. N., & Co., New York, N. Y.—H 77.

a Brocade silks. 246

b Silk handkerchiefs. 247

829 New York Woven Label Manufacturing Co., New York, N. Y.—Woven labels and hangers. H 74. 247

831 Horstmann, W. H., & Sons, Philadelphia, Pa.—Dress, carriage, upholstery, and undertakers' trimmings; narrow textile fabrics; passementerie. H 73. 249

832 Kohn, Tobias, Novelty Weaving and Braiding Works, Hartford, Conn.—Star and embroidery braids. H 76. 249

833 Dale Manufacturing Co., Paterson, N. J.—Silk, mohair, and fancy trimming braids; cords, bindings, hat bands, braided sewings, and watch guards. H 75. 249

835 Fleisher, S. B. & M., Philadelphia, Pa.—Alpaca braids. F 71. 249

836 Sutro Bros., New York, N. Y.—Embroidery braids, put up on patent cards, stating correctly the measurement of each skein. F 71. 249

837 Nottingham Lace Works, Brooklyn, N. Y.—Guipure, thread, cashmere, and other laces and trimmings; hair nets. Manufacturers from original designs of guipure laces, thread, cashmere, Spanish and millinery laces, silk purlings, lace fringes, hair nets, etc.; also, a specialty of all desirable styles of silk lace ties and scarfs. Orders sent to A. G. Jennings, 428 Broome street, New York. H 75. 249

838 Turner, John, Norwich, Conn.—Picture and furniture cords. B 77. 249

839 Goff, D., & Son, Pawtucket, R. I.—Alpaca skirt braid. F 71. 249

840 Silver Lake Co., Boston, Mass.—Solid braided cords. F 68. 249

841 Keltz, G. L., & Co., New York, N. Y.—Furniture coverings, gimps, fringes, cords, tassels, and other upholstery goods. C 78. 249

Clothing, Jewelry, and Ornaments, Traveling Equipments.

842 Häpke, A. B., Harrisburg, Pa.—Knit goods and embroideries. F 69. 250

842a Lowery & Williams, Utica, N. Y.—Merino and cotton underwear. F 73. 250

843 Moore, Leopold, Philadelphia, Pa.—B 69.

a Wrappers, shirts. 250

b Silk hats. 251

843a Munson Manufacturing Co., Cohoes, N. Y.—Merino and cotton underwear. F 73. 250

844 Sachse, F., & Son, S. E. corner Eighth and Vine streets, Philadelphia, Pa.—Finest American dress shirts; also cricket, club, fire, base-ball, yachting, and society shirts. F 69. 250

844a Meyer, Jonasson, & Co., New York, N. Y.—Felt skirts. F 78. 250

845 Butterick, E., & Co., New York, N. Y.—Paper patterns for ladies' and children's garments. H 70. 250

846 Maize & Schwartz, Philadelphia, Pa.—Military uniforms. C 78. 250

847 Chapman, Mrs. Dr. H. M., 219 South Eighth, and 336 South Fifth street, Philadelphia, Pa.—Patent skirt supporting, shoulder brace, puff corset. Requires no padding; allows the form its natural shape without pressure. F 69. 250

847a Wyoming Valley Knitting Co., Pittston, Pa.—Hosiery and underwear. F 73. 250

848 Cooper, Henry Prouse, New York, N. Y.—Clothing. F 72. 250

849 Schuyler, Hartley, & Graham, New York, N. Y.—Military and naval equipments, society and theatrical goods. F 70. 250

849a Moeller, C. H., St. Louis, Mo.—Netted underwear. F 71. 250

850 Glazier, J. J., Bro. & Co., Philadelphia, Pa.—Brown, bleached, and colored hose and half hose. F 72. 250

850a Fall River Merino Co., Fall River, Mass.—Ladies' and men's underwear. F 73. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Clothing, Ornaments.

- 851** Judson Bros., New York, N. Y.—Shirts, underwear, drawers. F 70. 250
- 851a** Weldon, Dana, & Co., San Francisco, Cal.—Stocking supporters, ladies' belts, etc. F 71. 250
- 852** Thalheimer & Hirsch, Philadelphia, Pa.—Gentlemen's white and fancy shirts, underwear, collars, and cuffs. F 61. 250
- 852a** Dudley Hosiery Co., Newton Lower Falls, Mass.—Knit underwear, hosiery. F 73. 250
- 853** Michaelis & Kaskel, **853** Broadway, New York, N. Y.—Shirts, underwear, and pajamas; anti-rheumatic flannels, and embroideries. Manufacturers of the finest dress shirts and underwear, to order only; embroiderers, and importers of gentlemen's furnishing goods; depot for Dent's London-made kid gloves, Cartwright and Warner's merino underwear, and Martin's umbrellas; sole agents in the United States for Lairitz's celebrated anti-rheumatic flannels and medicinal preparations. Office, during the exhibition, at the Transcontinental Hotel, opposite the Main Building. F 67. 250
- 853a** Leighton, Chas., New Orleans, La.—Shirt. F 71. 250
- 854** Harvey & Baird, Philadelphia, Pa.—Shirts. F 72. 250
- 854a** Eager, P. B., Tower, & Co., Boston, Mass.—C 78. 250
 a Oiled clothing. 250
 a Oiled hats. 251
- 855** Griswold, Catherine A., New York, N. Y.—Corsets. F 69. 250
- 856** Devlin & Co., Clothiers, Broadway, corner Grand street; Broadway, corner Warren street, New York, N. Y.—Military uniforms, for army, navy, and national guard; gentlemen's dress and business suits; duck vests, robes-de-chambre, breakfast jackets, and shirts; also, boys' and youths' clothing. F 67. 250
- 856a** Hemple, J. C., Baltimore, Md.—Rubber cloth diaper. F 72. 250
- 857** Prindle, G. H., Philadelphia, Pa.—Muffs and boas, caps, cloaks, afghans, capes, hoods, designs for bed spreads. F 72. 250
- 857a** Thudium, C. A., & Son, Philadelphia, Pa.—Woolen and worsted cardigan jackets. B 70. 250
- 858** Moore, George, New York, N. Y.—Bias and bias neck cutter. H 71. 250
- 858a** Bishop & Northrup, Wyandotte, Mich.—Wool dusters. F 71. 250
- 859** Thomas, A. W., Philadelphia, Pa.—Bustle, skirt elevator, bosom form. F 72. 250
- 859a** Jacobs, Strouse, & Co., New York, N. Y.—Corset clasps and busks. I 62. 250
- 860** Rosenbach & Co., Philadelphia, Pa.—Shirts, pantaloons, overalls, drawers. F 68. 250
- 860a** Schoenhof, J., & Co., New York, N. Y.—Shirts in embroidered and trimmed effects. F 71. 250
- 861** Conrad Bros., Philadelphia, Pa.—Shirts, collars, cuffs, etc. F 67. 250
- 862** National Suspender Co., New York, N. Y.—Shoulder braces and suspenders. F 68. 250
- 862a** Oliver, Thomas, New York, N. Y.—Transfer for measuring and cutting coats. P 68. 250
- 863** Cohn, M., & Co., Novelty Corset Works, New York, N. Y.—Woven corsets. F 69. 250
- 864** Piqua Woolen Mills, Piqua, O.—Jackets and woolen socks. B 75. 250
- 865** Taylor, S. T., New York, N. Y.—System of dressmaking, bias cutter, fashion journals. F 71. 250
- 866** Hopkins, W. T., Philadelphia, Pa.—Ladies' and children's undergarments, infants' dresses, hoop skirts, corsets, panniers, bustles. F 69. 250
- 867** Horstmann, Wm. H., & Sons, Philadelphia, Pa.—Military and theatrical goods. Military society, regalia, church, and theatrical goods; flags, banners, bunting, army, navy, national guard, and band equipments, in great variety; regalia, jewels, and properties for Masonic Blue lodges, chapters, commanderies, Scottish Rite, and other societies; Knights Templar uniforms a specialty. A full line of materials and trimmings suited to all the above lines. H 73. 250
- 868** Demorest, Mme., New York, N. Y.—Fashion patterns and bulletin, dress-cutting system, corsets, shoulder brace, skirt and stocking suspenders. F 68. 250
- 869** Nashawannuch Manufacturing Co., Easthampton, Mass.; factories, Easthampton, Mass.; salesrooms, 74 and 76 Worth street, New York.—Elastic rubber suspenders and webs. Manufacturers of elastic suspenders, frills, and webs, in silk, worsted, and cotton; new styles, plain and figured, in great variety, constantly produced. This company successfully introduced in this country "Goodyear's" patent vulcanized rubber, in woven elastic goods, and continues its use very extensively. F 67. 250
- 871** Thompson, E. O., merchant tailoring, 908 Walnut street, Philadelphia, Pa.—Clothing. Exemplification of mechanical and artistic tailoring is displayed in these garments, made to order for competition, designed, also, to illustrate characteristic national workmanship, in their embellishment, by trimmings made of the national colors and coins; also particular merit is claimed for the perfect fitting pantaloons, cut according to the process patented by the exhibitor. F 71. 250
- 872** Sternberger, L. & S., Philadelphia, Pa.—White shirts. Manufacturers of the "Eclipse" fine white shirts; shirt fronts, drawers, overalls, etc. F 68. 250
- 873** Norfolk & New Brunswick Hosiery Co., New Brunswick, N. J.—Ladies', gentlemen's, and children's knitted underwear; shirts, vests, pants, and drawers; ladies' and misses' union dresses, gentlemen's and boys' merino wool half hose; ladies' and misses' merino and wool hose and three-quarter socks, in various colors. We manufacture only full fashioned or regular made goods of fine qualities. H. J. Libby & Co., agents, No. 51 White street, New York. F 70. 250

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

PROVIDENT
LIFE AND TRUST COMPANY,
OF PHILADELPHIA.

INCORPORATED 3 MO. 23, 1865.

ASSETS, over - - - - \$3,000,000

Strictly Mutual. Distinguished for careful selection of risks, prudent investment of funds, great economy, and liberality to its policy-holders.

DAVID F. CONOVER & CO.,

Successors to WM. B. WARNE & CO.,
IMPORTERS, MANUFACTURERS, AND
Wholesale Dealers in

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Southeast corner Chestnut and Seventh Streets, first floor,

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American Watch Wholesale Salesroom

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Manufacturers and Importers of

Military, Society Regalia, Church,

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THEATRICAL GOODS,

BANNERS, FLAGS, BUNTING.

1814.

1876.

PRESBYTERIAN BANNER,

PITTSBURGH, PA.

OLDEST RELIGIOUS NEWSPAPER.

ESTABLISHED JULY 5, 1814.

*BEST MEDIUM FOR FIRST-CLASS ADVERTISING
WEST OF NEW YORK.*

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cake of this world-renowned soap, exhib-
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1000 pounds. Its purity and merits are

well known. One trial will show the most
skeptical its superiority.

Don't leave town without getting some
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over our exhibit of genuine letters in its
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Clothing.

- 874 Warner Bros., New York, N. Y.**
—Corset and skirt supporter, corset waist.
F 70. 250
- 875 Bowers, Jas., & Co., Newark, N. J.**—Sewed corsets and rivetless corset clasps. F 69. 250
- 876 Alkinson, Henry, Philadelphia, Pa.**—White shirts, buckskin shirts, and drawers. F 70. 250
- 877 Zäuner, Henry, Philadelphia, Pa.**—Lace, silk, and meo caps, hand knit and crochet zephyr goods, for infants. F 70. 250
- 879 Borm, L., Philadelphia, Pa.**—Dress suit. F 69. 250
- 880 Wilson, J. H., Philadelphia, Pa.**—Military goods. F 70. 250
- 881 Foy & Harmon, New Haven, Conn.**—Skirt-supporting corset. F 69. 250
- 882 America Hosiery Co., New Britain, Conn.**—Wool, merino, and cotton underwear, hosiery. F 68. 250
- 883 Worcester Corset Co., Worcester, Mass.**—Corsets, corset and skirt supporters. F 69. 250
- 884 Boston Comfort Corset Co., Boston, Mass.**—Corset without bones. F 69. 250
- 885 Palmer & Williams, Boston, Mass.**—Jacqueline corsets and misses' waists. F 69. 250
- 886 Denham, T. M., & Brother, New Bedford, Mass.**—White laundered shirts and shirt bosoms. F 68. 250
- 887 Rockhill & Wilson, Philadelphia, Pa.**—Clothing. F 69. 250
- 888 Lowell Hosiery Co., Lowell, Mass.**—Women's plain cotton hose. F 69. 250
- 889 Wanamaker & Brown, Philadelphia, Pa.**—Gentlemen's, youths', and children's ready-made clothing; gentlemen's furnishing goods. B 67. 250
- 890 Wanamaker, John, & Co., Philadelphia, Pa.**—Ancient and modern clothing worn by American gentlemen during the past century. F 67. 250
- 892 Cummings, J. S., & Co., Philadelphia, Pa.**—Scarfs, cravats, stocks, bows, and neck wear. F 68. 250
- 893 Hughes, Thos., & Co., Bristol, Pa.**—Cotton, merino, and wool hosiery. F 70. 250
- 894 Strahan, Hodgson, & Co., New York, N. Y.**—Linen collars and cuffs. F 72. 250
- 895 American Suspender Co., Waterbury, Conn.**—Webbing frills and suspenders. F 68. 250
- 896 Brewster Bros. & Co., Birmingham, Conn.**—Corsets, combined corset and skirt supporters, corset clasps. F 69. 250
- 897 Gabriel, Henry, & Sons, Allentown, Pa.**—Knitted woolen and cotton hosiery. F 68. 250
- 898 American Molded Collar Co., Boston, Mass.**—Combined cloth and paper collars. These collars are well known for their complete shape to the neck. The collars and cuffs have a pure starch finish, and are suitable for any gentleman to wear, always being of the latest fashion. The "molding" process, by which each collar is made to fit the neck perfectly and easily, is controlled exclusively by this company. These goods have been awarded the first prize at several expositions. F 70. 250
- 899 Frost, Geo., & Co., Boston, Mass.**—Corsets, waists, hose supporter, emancipation suit, and under-flannel. F 70. 250
- 900 Sweet, Orr, & Co., factory, Wappinger's Falls, N. Y.; office, 345 Broadway, New York City.**—Orr's pantaloons, overalls, and engineer jackets. The peculiar cut of these overalls must be noticed, by which such seat-room is given that the wearer feels perfect ease, in all positions; no binding or straining in any part; their strength is such that they are "warranted never to rip." F 76. 250
- 901 Bickford, Dana, New York, N. Y.**—Knitted articles made on Dana Bickford's knitting machines. F 68. 250
- 902 Beatty Hosiery Mills, Philadelphia, Pa.**—Hosiery. F 73. 250
- 903 Landenberger's, Martin, Sons, Philadelphia, Pa.**—Hosiery and knit goods. F 67. 250
- 904 United States Corset Co., New York, N. Y.**—Corsets. B 71. 250
- 905 Sharpless & Sons, Philadelphia, Pa.**—Ladies' costumes. B 68. 250
- 906 Rothschild Bros. & Gutman, New York, N. Y.**—Shirts, drawers, and undershirts. F 69. 250
- 907 Cameron, Wm., & Son, Philadelphia, Pa.**—Embroidering, braiding, and stamping designs; children's clothing, indelible ink marking. F 70. 250
- 908 Dress Reform Co., Boston, Mass.**—Dress reform clothing. F 71. 250
- 909 Otis Co., Ware, Mass.**—Hosiery and underwear. N 75. 250
- 910 Hayden, James, Philadelphia, Pa.**—Shirts, drawers, and necktie shields. F 72. 250
- 911 Peck & Greene, Brooklyn, N. Y.**—Worsted and silk goods for theatrical, boating, and general underwear. B 75. 250
- 912 Star Knitting Co., Cohoes, N. Y.**—Cotton, woolen, and merino shirts, drawers, pantalets, and union suits. F 67. 250
- 913 Parsons, J. H., & Co., Cohoes, N. Y.**—Woolen, merino, and cotton shirts; drawers, pantalets, and union suits. F 67. 250
- 914 Brookside Hosiery Mills, Troy, N. Y.**—Cotton, woolen, and merino shirts; drawers, pantalets, and union suits. F 67. 250
- 915 McDonnell, Kline, & Co., Amsterdam, N. Y.**—Cotton, woolen, and merino shirts; drawers, pantalets, and union suits. F 67. 250
- 916 Bennett, E., Brooklyn, N. Y.**—Shirts. F 68. 250
- 917 Coon & Van Volkenburgh, Troy, N. Y.**—Men's linen collars and cuffs. F 67. 250
- 918 Ellis Manufacturing Co., Waltham, Mass.**—Stocking supporters. H 250. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-62.

Clothing, Ornaments, Jewelry.

- 919** Homer, Colladay & Co., Philadelphia, Pa.—F 71.
a Ladies' dresses, trousseaux, neck-ties, scarfs, and furnishing goods. 250
b Embroidery, lingerie. 252
 All articles contained in this exhibit are of A., C. & Co.'s own manufacture, and at their extensive establishment, Nos. 14.2 and 1414 Chestnut street, above Broad street, Philadelphia, will be found goods of a similar character, in great variety.
- 920** Pettingell & Sawyer, East Cambridge, Mass.—F 76.
a Waterproof oil clothes. 250
b Waterproof hats. 251
- 920a** Brady, Edward, Philadelphia, Pa.—U 63.
a Collars for men's wear. 250
b Buttons. 254
- 921** Carney, Bernard L., Philadelphia, Pa.—Silk, beaver, and felt hats. B 70. 251
- 922** Jacoby, Theo., Philadelphia, Pa.—Hats, bonnets with domestic trimmings. F 70. 251
- 923** Hagle, Fortuné, New York, N. Y.—Material for kid glove manufacturing, and kid gloves. B 68. 251
- 924** Stetson, John B., & Co., Philadelphia, Pa.—Soft and stiff felt hats in various stages of manufacture. B 68. 251
- 925** Walton, Maison, New York, N. Y.—Bonnets and round hats. F 71. 251
- 926** Littleton Saranac Buck Glove Co., Boston, Mass.—Grain tanned gloves. B 69. 251
- 927** New York Catholic Protectory, New York, N. Y.—Shoes. V 53. 217
- 928** Brown, Emma, New York, N. Y.—Straw round hats and feathers. B 70. 251
- 929** Nonnenberger, Christian, Philadelphia, Pa.—Hatters' blocks and tools. B 69. 251
- 930** Fenton, J. H., & Bro., Philadelphia, Pa.—Gentlemen's dress, silk, soft and stiff felt, and other hats. B 70. 251
- 931** Pierson & Herman, Newark, N. J.—Hat blocks and flanges, hatters' tools. B 70. 251
- 932** Yates, Wharton, & Co., Newark, N. J.—Fur felt hats. B 70. 251
- 933** Field, J. C. & J. F., Philadelphia, Pa.—Gloves. B 69. 251
- 934** Hays, Daniel, Gloversville, N. Y.—Buckskin and peccary skin gloves, gauntlets, and mittens. B 71. 251
- 934a** Blaylock & Co., Philadelphia, Pa.—B 71.
a Straw hats; hats. 251
b Furs, robes, fur caps, turbans, gloves, etc. 256
- 935** Jeannisson, Lewis, & Son, Johnstown, N. Y.—Gloves. B 71. 251
- 937** Haverhill Hat Co., Haverhill, Mass.—Wool hats. B 69. 251
- 938** Solmans, Alden, South Norwalk, Conn.—Felt hats. B 71. 251
- 939** Morris, E., & Co., Philadelphia, Pa.—Silk, soft, and stiff hats. B 67. 251
- 940** Amidon's Son, T. H., New York, N. Y.—Hats and caps. B 70. 251
- 941** Dunlap & Co., Hatters, 174 Fifth avenue and 589 Broadway, New York, N. Y.; manufactory and wholesale department, 160 Mercer street, New York, N. Y.—Gentlemen's silk, felt, straw and opera hats; ladies' riding hats. B 70. 251
- 942** Kennedy, Thos., & Bro., Philadelphia, Pa.—Wax figure in bridal costume; trimmed bonnets and hats. F 72. 251
- 943** Schiller, Jos., & Co., St. Louis, Mo.—Hats for gentlemen's wear. B 69. 251
- 945** Hutchinson, John C., Johnstown, N. Y.—Men's lined dogskin, calfskin, and lambskin gloves and gauntlets. B 71. 251
- 946** Northrup, W. S. & M. S., & Co., Johnstown, N. Y.—Fine lamb, real calf, and buckskin castor unlined gloves. Most glove dealers know the reliability of gloves made by this firm. B 71. 251
- 947** Colwell, F. E., & Co., Chicago, Ill.—Husking gloves. P 51. 251
- 948** Miller, Geo. F., Jacksonville, Fla.—B 74.
a Palmetto hats. 251
b Florida curiosities. 254
- 949** Bancroft, J. S., & Co., New York, N. Y.—Hats and caps, boys' and children's hats. B 72. 251
- 950** Kursheedt & Co., 190 to 194 South Fifth avenue, New York, N. Y.—Standard manufacturers of Embroideries, puffings, plaitings, and flutings, made on patented machines; ladies' collars and cuffs, ties, collarettes, lock-stitch all-over tuckings, and tuckered frockings. F 69. 252
- 950a** Beatty & Thorne, New York, N. Y.—Hat, badge, and ornamental printing in gold, silver, etc. P 78. 252
- 951** Bentley, Jeff. O., Philadelphia, Pa.—Embroidered, braided, and stamped goods; indelible marking, designs, stamps. F 72. 252
- 951a** Roberts & Hevell, Newark, N. J.—T 65.
a Dress, hat, and shoe trimmings. 252
b Metal fancy goods, notions. 254
c Trunk and bag trimmings. 255
- 952** Barrett, Jos. W., Philadelphia, Pa.—Embroidery and braiding designs, hand worked and printed. F 72. 252
- 953** Thomas, Joel, Philadelphia, Pa.—Ruches, ladies' and infants' caps, ruffings, and collarettes. F 71. 252
- 954** Clickerman, L. M., Philadelphia, Pa.—Embroidery on linen cambric. F 68. 252
- 955** Palmer & Kendall, Middletown, Conn.—Mosquito net canopies with attachments, machine-tentered wide fabrics, mosquito nettings, cords, and window lines. F 77. 252
- 956** Bedichimer, Isaac, Philadelphia, Pa.—Masonic marks, society jewels, pins, and emblems in gold and silver. N 43. 253
- 956a** Barrows, H. F., & Co., New York, N. Y.—Plated jewelry. P 43. 253
- 957** Muhr's, H., Sons, Philadelphia, Pa.—Gold finger rings. P 43. 253
- 957a** Celluloid Novelty Co., New York, N. Y.—Celluloid jewelry. N 43. 253
- 958** Bailey & Co., Philadelphia, Pa.—Jewelry. N 43. 253

For location of objects, indicated by letter and figure, see Key to Notation, p. 25: ground plan, p. 2

Jewelry, Toys, Fancy Articles.

- 959 Simons, Opdyke, & Co., Philadelphia, Pa.—Gold chains, gold head canes, thimbles, gold and pearl jewelry. P 43. 253
- 960 Caldwell, J. E., & Co., Philadelphia, Pa.—Jewelry and artistic manufactures in the precious metals, for use and decoration. N 41. 253
- 961 Vulcanite Jewelry Co., New York, N. Y.—Vulcanite and jet, and combination vulcanite and jet jewelry. P 43. 253
- 962 Goggin, Jas., New York, N. Y.—Suites of jewelry, and jewel cases of shell, jet, and bog oak. P 50. 253
- 963 Neher, Chas., Philadelphia, Pa.—Hair jewelry. P 43. 253
- 964 Starr & Marcus, New York, N. Y.—Diamonds, pearls, precious stones, rich jewels, and stone cameos. N 41. 253
- 965 Morgan & Headly, Philadelphia, Pa.—Gold spectacles and chains, fine jewelry. N 42. 253
- 966 Cottier, C., & Son, N. Y.—Imitation of precious stones and fancy cut stones. P 44. 253
- 967 Tillinghast, Mason & Co., Providence, R. I.—Imitation diamond jewelry. N 43. 253
- 968 Richards, J. J. & J. M., New York, N. Y.—Sleeve and collar buttons, studs, crosses, pins, and eardrops. P 43. 253
- 969 Haas, Jas. A., & Co., Philadelphia, Pa.—Jewelry; masonic and other emblems. N 43. 253
- 970 Hamilton P. Hunt, Providence, R. I.—Plated chains and buckle bracelets. P 43. 253
- 971 Klipping's, R., Sons, New York, N. Y.—Precious and imitation stones for jewelry. N 43. 253
- 972 Tiffany & Co., New York, N. Y.—N 41. 253
a Jewelry, precious stones. 253
b Gilt goods. 254
- 973 Robbins, Clark & Biddle, Philadelphia, Pa.—N 43. 253
a Jewelry, diamonds. 253
b Bronzes, fancy goods. 254
- 973a Sand, M., New York, N. Y.—Wax flowers. F 71. 254
- 974 Miller, Thos., New York, N. Y.—Silk umbrellas. B 70. 254
- 975 Pope Manufacturing Co., Boston, Mass.—Rifle air pistol for target shooting. H 71. 254
- 975a Oakville Company, Waterbury, Conn.—Shawl, bankers', and mixed pins; toilet pin rolls. H 68. 254
- 975b Galena Oil Works (limited), Franklin, Pa.—Silver card baskets and cards. P 47. 254
- 976 Wallace & Keller, Philadelphia, Pa.—Walking canes, bell earrings, and fancy articles. B 72. 254
- 976a Pratt, D. G., Cambridgeport, Mass.—Wood and ivory turned goods. N 57. 254
- 977 Birgé & Berg, Philadelphia, Pa.—Artificial flowers; picture of lion, made of flowers. F 72. 254
- 978 Glendenning & Truitt, Philadelphia, Pa.—Whips. B 71. 254
- 978a New York Button Co., New York, N. Y.—Silk, velvet, metal, and other buttons. B 71. 254
- 979 Lacmann, J., & Sons, Philadelphia, Pa.—Doll bodies. F 72. 254
- 979a Weintroub, Paul, Philadelphia, Pa.—Fancy articles of olive wood from Jerusalem. T 54. 254
- 980 Pilling, George P., Philadelphia, Pa.—Gold, silver, and plated masonic, odd fellows, and society jewels, marks, emblems, and other small silver wares. N 52. 254
- 981 Baeder, Adamson, & Co., Philadelphia, Pa.—Gold, silver, and plated masonic, odd fellows, and society jewels, marks, emblems, and other small silver wares. N 52. 254
- 981a Bene, Creighton, & Co., New York, N. Y.—Feathers. H 76. 254
- 982 Wilson, John, Philadelphia, Pa.—Carved walking canes. B 69. 254
- 983 Hirsh & Brother, Philadelphia, Pa.—Umbrellas, parasols, and materials. B 72. 254
- 983a Bacon, George W., Philadelphia, Pa.—Artistic transfers in spermaceti. N 55. 254
- 984 Galbraith, Alex., Philadelphia, Pa.—Wax flowers and materials. F 71. 254
- 984a Dudley, Dana, Philadelphia, Pa.—Toy gyroscopes. P 71. 254
- 985 Watson, Brock, Philadelphia, Pa.—Fancy articles carved from nuts and fruit stones; wood relics. H 69. 254
- 986 Potter, W. K., Providence, R. I.—Tortoise shell goods, combs, jewelry, etc. P 43. 254
- 986a Shoenhof, J., & Co., New York, N. Y.—Felt skirts. F 71. 254
- 987 Nickle, Robt., Rochester, N. Y.—Magical apparatus and toys. H 78. 254
- 987a Goodwin, W. C., New Haven, Conn.—Hot-air toys, guns, games, novelties, recording bank. N 71. 254
- 988 Bloodgood, Miss A. De Etta, New York, N. Y.—Sheet wax, wax flowers, leaves, shells, fruit, etc.; illuminated and rustic crosses. P 42. 254
- 988a Noyes, W. F., Newburyport, Mass.—Combs. F 71. 254
- 989 Chambers & Co., Philadelphia, Pa.—Umbrellas, parasols, and sun umbrellas. B 72. 254
- 989a Leighton, Charles, New Orleans, La.—Sleeve buttons mounted with Long Branch pebbles. F 71. 254
- 990 Johnson, E. S., New York, N. Y.—Tooth picks and ear spoons. N 43. 254
- 990a Jackson, Samuel C., New York, N. Y.—Silverware and jewelry trays and cases, fancy wood boxes. N 43. 254
- 992 Wahl, Emil, Philadelphia, Pa.—Fancy bone work, dominoes, chessmen, crochet needles, buttons, jewelry, etc. N 43. 254
- 993 India Rubber Comb Co., New York, N. Y.—Hardware rubber combs, syringes, drinking flasks; surgical, telegraphic, and photographic goods, etc. Manufacturers of hard rubber combs, syringes, drinking flasks, whip sockets, inkstands, oilers, thimbles, doll heads, martingale rings, tumblers, rulers, tumbrels, scoops, dice cups, soap trays.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ornaments, Toys, Fancy Articles.

- castor rolls, napkin rings, whip handles, salad spoons and forks, gas faucets, mustard spoons; photographic, telegraphic, electrical, and surgical goods, and all kinds of special goods; sheet, rod, and tubing. B 67. 254
- 994 Leiner, Moritz, New York, N. Y.—Ear cleaners, filtering racks, sponge baskets, bath and bottle brushes, probangs. P 65. 254
- 995 Aiken, Lambert, & Co., New York, N. Y.—Toothpicks. N 43. 254
- 996 Koch, Sons, & Co., New York, N. Y.—Albums and backgammon boards. P 76. 254
- 997 Birch, John S., New York, N. Y.—Watch key that will wind any watch. P 43. 254
- 998 Ellis, Knapp, & Co., New York, N. Y.—Umbrellas and parasols. B 70. 254
- 998a Feust & Rice, New York, N. Y.—Toys, jardiniers, and parlor ornaments. P 51. 254
- 999 Drown, W. A., & Co., Philadelphia, Pa.—Umbrellas and parasols. B 69. 254
- 999a Buffalo Decorating Co., Buffalo, N. Y.—Artificial ivy and autumn leaves. P 62. 254
- 1000 Hopkins & Robinson Manufacturing Co., Akron, O.—Smoking pipes. T 44. 254
- 1000a Smithers, Mrs. G. H., New York, N. Y.—Wax flowers and figures; sheet wax. F 70. 254
- 1001 Orange Judd Co., New York, N. Y.—Crandall's building blocks. T 73. 254
- 1003 Dickinson, Mrs. C. J., Chicago, Ill.—Wax flowers, leaves, fruit, ferns, etc. P 42. 254
- 1004 Tobin, Joseph F., No. 82 Duane street, New York, N. Y.—Whalebone goods. Manufacturer of dress, corset, whip, cane, probe, busks, brush, ribbon, round and half-round bone. F 72. 254
- 1005 Mabie, Todd, & Bard, New York, N. Y.—Tooth-picks. N 43. 254
- 1007 Riley & Lynch, Newark, N. J.—Bag and umbrella trimmings, military metal goods, masonic ornaments, etc. H 67. 254
- 1008 Celluloid Manufacturing Co., Newark, N. J.—Toilet brushes, etc., made from celluloid. N 43. 254
- 1009 American Mechanical Toy Co., N. Y.—Mechanical toys. F 70. 254
- 1010 Leonhard, Theo., Paterson, N. J.—Pure white beeswax bleached by sun, wax tapers or gaslighters, sheet wax and gilded brass moulds for wax flowers. N 56. 254
- 1011 Bradley & Hubbard Manufacturing Co., West Meriden, Conn.—Bronzes, call bells. N 47. 254
- 1013 Carlisle, Henry, & Son, Philadelphia, Pa.—Tortoise shell and horn combs, jewelry sets, and fancy articles. N 52. 254
- 1014 Althof, Bergmann, & Co., New York, N. Y.—Tin and mechanical toys. F 76. 254
- 1016 Bickel, August, & Son, Philadelphia, Pa.—Canes. B 71. 254
- 1017 Heister & Gans, New York, N. Y.—Automatic umbrellas and parasols. B 69. 254
- 1018 Kaldenberg, Fred. Julius, New York, N. Y.—Genuine meerschaum pipes and cigar holders, amber goods. P 66. 254
- 1019 Holland, John, Cincinnati, O.—Toothpicks. N 43. 254
- 1020 Adams, J. S., & Co., Providence, R. I.—Tortoise shell jewelry and combs. N 42. 254
- 1021 Demuth, Wm., & Co., New York, N. Y.—Pipes and smokers' articles. P 69. 254
- 1022 Wagan, R. M., Mount Lebanon, N. Y.—Fancy articles made by the Shakers. P 52. 254
- 1023 Stehr, Carl, New York, N. Y.—Meerschaum and amber goods. B 72. 254
- 1024 Harvey & Ford, Philadelphia, Pa.—Canes, umbrella and whip handles; pipes, billiard balls; pearl, horn, and ivory work. B 70. 254
- 1025 Waterbury Button Co., Waterbury, Conn.—Army, navy, railroad, police, state, livery, and cloth buttons; ladies' belt buckles, medals, and badges. B 76. 254
- 1027 Armstrong, F., Bridgeport, Conn.—Duplex ventilated garters and armlets. F 72. 254
- 1028 Field, A., & Sons, Taunton, Mass.—Buttons and eyelets. P 68. 254
- 1029 Lewy, F., New York, N. Y.—Kid glove safe. E 78. 254
- 1030 Matthias, Mrs. C. E., Philadelphia, Pa.—Umbrellas and parasols. F 70. 254
- 1031 Mitchell, Vance, & Co., New York, N. Y.—Bronzes. N 49. 254
- 1031a Griffin, A. B., Ravenna, O.—Box and pyramid made of the woods of the world, containing 9865 pieces. P 49. 254
- 1032 Independent Comb Co., Wappinger's Falls, N. Y.—Ladies' horn and rubber combs, dressing combs, pipe stems, and bits. B 73. 254
- 1033 Barnhurst & Robinson, Philadelphia, Pa.—Umbrella and parasol stretchers. B 70. 254
- 1034 Grotenthaler, V., Philadelphia, Pa.—Block for wood engravers, wooden smoking pipes. B 70. 254
- 1035 Ives, Blakeslee, & Co., Bridgeport, Conn.—Mechanical toys and novelties. F 72. 254
- 1036 Mains Manufacturing Co., New York, N. Y.—Dice box. N 65. 254
- 1037 Nax, Kuhn, & Silberman, Philadelphia, Pa.—Tobacco pipes; umbrella, parasol handles, cigar tubes, etc. B 75. 254
- 1038 National Button Co., Easthampton, Mass.—Cloth-covered and vegetable-ivory buttons, in great variety. Williston, Knight & Co., selling agents, Nos. 74 and 76 Worth street, New York, who sell by the case or package only. B 76. 254

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Fancy Articles, Traveling Equipments, Stationery.

- 1039 Spaulding, D. S. Mansfield, Mass.—Tortoiseshell jewelry backcombs, and fancy goods. N 3. 254
- 1040 Sevey, J. A., Boston, Mass.—Articles of whalebone, for hips, canes, corsets, dresses, etc. F 71. 254
- 1041 Eureka Manufacturing Co., Boston, Mass.—Air pistols. H 71. 254
- 1042 Joslin, Palmer, & William, New York, N. Y.—Horn and rubber goods, fancy back combs, and jewelry. N 43. 254
- 1043 Hildreth, Milo, & Co., Northboro', Mass.—Horn and tortoise shell combs and jewelry. N 43. 254
- 1044 Mahn, L. H., Jamaica Plains, Mass.—Base balls. F 71. 254
- 1047 Porter Brothers & Co., New York, N. Y.—Buttons and presses for attaching the same. H 71. 254
- 1047² Holland, J. C., New York, N. Y.—Needles. F 71. 254
- 1048 Harris, S., & Sons Manufacturing Co., Clinton, Mass.—Dressing and fancy combs, imitation jet and shell chains. F 71. 254
- 1049 Wild, G. L., & Brother, Washington, D. C.—Musical dancing toy attachment for pianos. N 64. 254
- 1050 Moutoux, Emil W., New York, N. Y.—Hair pictures and devices for breastpins. P 52. 254
- 1051 Grote, P., & Co., New York, N. Y.—Carved and turned ivory; pearl and shell goods. B 71. 254
- 1051² Conrad, Wm. C., Middletown, Pa.—Cane. T 61. 254
- 1052 Ansley, Fred. W. St. Augustine, Fla.—Jewelry made from native Florida material. H 68. 254
- 1053 Fowler Fly Fan Co., Philadelphia, Pa.—Fly fan moved by clockwork. N 54. 254
- 1054 Platt Bros. & Co., Waterbury, Conn.—Buttons. H 71. 254
- 1055 Cheshire Manufacturing Co., WestCheshire, Conn.—Buttons. H 71. 254
- 1056 Godfrey, C. J., & Son, Naugatuck, Conn.—Thimbles. H 71. 254
- 1057 Comstock Dickinson Ivory Co., Center Brook, Conn.—Ivory hair combs. H 71. 254
- 1058 Blake & Johnson, Waterbury, Conn.—Satin finish hair pins. H 71. 254
- 1059 Ves, Blakeslee, & Co., Bridgeport, Conn.—Silk covered ventilated metallic garters. H 71. 254
- 1059² Ladd, S. J., Providence, R. I.—Gold thimbles. N 43. 254
- 1060 Peacock, H. H., Philadelphia, Pa.—Fancy cases in morocco, velvet, and marqueterie, for jewelry etc.; physicians' cases. P 63. 255
- 1060² Turner, Andrews & Co., Philadelphia, Pa.—Pocket and bill books, letter cases, and fancy leather articles. F 72. 255
- 1061 Rumpp, Chas., Philadelphia, Pa.—Fancy leather goods, dressing case, work boxes, pocketbooks, satchels, etc. H 69. 255
- 1061² Langfeld, J., & Sons, Philadelphia, Pa.—Pocketbooks, satchels, and fancy leather articles. F 70. 255
- 1062 Kolb, G. F., & Son, Philadelphia, Pa.—Cases for jewelry and silverware. B 71. 255
- 1062² Arms Manufacturing Co., Northampton, Mass.—Pocketbooks, photograph cases, chess boards, etc. B 75. 255
- 1063 Rumpp, C. F., 116 & 118 North Fourth St., Philadelphia, Pa.—Fancy leather goods, pocketbooks, cigar and match cases, bankers' cases, dressing cases, writing desks, satchels, traveling bags, etc. Any article exhibited is kept in store, and any similar goods will be made to order at short notice. B 68. 255
- 1063² Spitzer, George W., 33 Maiden Lane, New York, N. Y.—Fans, jewelry cases, and fancy leather goods. Manufacturer of leather fancy goods. Our specialties are jewelry cases and fans. These are the only fans of the kind made in this country. B 71. 255
- 1064 Parkhurst & Gridley, Newark, N. J.—Shawl and book strap. P 68. 255
- 1065 Likly, McDonald, & Rockett, Cleveland, Ohio—Fancy leather work, gun case, etc. B 70. 255
- 1066 Stambach, John A., & Co., Philadelphia, Pa.—Ladies' and gentlemen's furs and robes. B 68. 256
- 1067 Mawson, Ed. S., & Sons, Philadelphia, Pa.—Seal sacques, muffs, caps, gloves; seal, sable, and mink skins, etc. B 68. 256
- 1068 Fishblatt, Lewis, Philadelphia, Pa.—Ladies' furs and carriage robes. B 70. 256
- 1069 Mahler, M., New York, N. Y.—Furs. B 67. 256
- 1070 Reisky, N. C., Philadelphia, Pa.—Ladies' furs, gentlemen's driving goods, sleigh robes, Indian painted buffalo robes. B 69 and 71. 256
- 1071 Booss, F., & Bro., 449 Broadway, New York, N. Y.—Furs, sacques coats muffs, boas, caps, robes, gloves, fur trimmings, and skins of all kinds. B 69. 256
- 1075 Kaehler, Otto, Philadelphia, Pa.—Stuffed animals, raw and dressed skins, fur robes, fancy furs, etc. B 68. 256
- 1076 Duryee & Hallett, Rahway, N. J.—Dressed and dyed furs. H 68. 256
- 1077 Burnett, W. H. & R., Newark, N. J.—Furs, fur cloaks, and fur-lined mantles. B 68. 256

Paper, Blank Books, and Stationery.

- 1078 Dixon Crucible Co., Jersey City, N. J.—Pencils of graphite. P 72. 258
- 1078² Amberg, William A., New York, N. Y.—File and binder. P 77. 258
- 1079 McGill, Geo. W., New York, N. Y.—McGill's patent fasteners, for binding papers of all descriptions; sampling for woolen, dry, and fancy goods, and for all descriptions of light binding; McGill's patent suspending rings, and braces for hanging cards, calendars, etc.; one hundred different patterns of fasteners and rings; McGill's patent letter clips, punches, presses, copying press, water cups, etc. Factories at Waterbury, Conn.; warehouses, at 40 Chambers street, New York, and 18 Federal street, Boston. P 73. 258

Stationery.

- 1079^a** Smith, Eldridge J., Philadelphia, Pa.—Bill holder, envelope, and book clamp. H 69. 258
- 1080** Hoskins, W. H., Philadelphia, Pa.—Paper, envelopes, designing, engraving, printing, and lithographing. P 76. 258
- 1080^a** Chamberlin, Whitmore, & Co., New York, N. Y.—Stationery. P 74. 258
- 1081** Woodruff, E. W., Washington, D. C.—File holders, for filing business and official papers, compactly and conveniently for reference. Adopted by the United States Government. P 49. 258
- 1082** Tiffany & Co., New York, N. Y.—Stationery. N 41. 258
- 1082^a** Pottin Register Manufacturing Co., Philadelphia, Pa.—Bank check. P 57. 258
- 1083** Goldsborough, John, Philadelphia, Pa.—Ribbon machine and hand stamps, perforating and canceling stamps. P 77. 258
- 1084** American Lead Pencil Co., New York, N. Y.—Lead pencils, materials, and process of manufacture. P 74. 258
- 1085** Fairchild, Leroy W., & Co., New York, N. Y.—Gold pens, pencil and pen cases, toothpicks and desk holders of gold and silver, etc. Awarded highest premium at Paris, 1867; Vienna, 1873; and gold and silver medals from other fairs wherever in competition. N 43. 258
- 1086** Faber, Eberhard, New York, N. Y.—Lead pencils, penholders, rubber goods, and stationers' articles. P 73. 258
- 1087** Cooke, G. K., & Co., New York, N. Y.—Revolving hand stamps, seal presses, rubber stereotypes, check protectors, combined pad and rack. P 77. 258
- 1088** Johnson, E. S., New York, N. Y.—Gold pens, pencils, and cases. N 43. 258
- 1089** Muller's, Nicholas, Sons, New York, N. Y.—Bronze stationery ware, inkstands. P 76. 258
- 1090** Janentsky & Co., Philadelphia, Pa.—Artists' materials, oil colors, water colors, paint boxes, artists' canvas, adjustable drawing table, artists' brush and color stand, sketching easels, and other articles appertaining to the fine arts, all of our own manufacture. P 77. 258
- 1091** Bergner, Theo., Philadelphia, Pa.—Drawing boards, parallel rulers, and section liners for draughtsmen's use. P 76. 258
- 1092** Hawkes, Geo. F., New York, N. Y.—Gold pens, gold, silver, pearl, and rubber pencils; fountain pen. N 43. 258
- 1093** Lipman, Hymen L., Philadelphia, Pa.—Kyelet machines, combining punch and riveter. P 74. 258
- 1094** Brower Bros., New York, N. Y.—Inkstands, paper weights, sponge cups, letter files, etc. P 74. 258
- 1095** Aiken, Lambert, & Co., 12 Maiden Lane, New York, N. Y.—Choice gold pens, penholders, cases. All goods sold guaranteed of same excellency as those on exhibition. N 43. 258
- 1096** Buck, T. S., & Co., Davenport, Ia.—Rubber type forms, rubber dating stamp. P 77. 258
- 1097** Stiles, Mrs. E. W., Philadelphia, Pa.—Book paper-file, revolving inkstand. P 30. 258
- 1098** Youngs, Wm. J., & Sons, Philadelphia, Pa.—Hand stamp. N 57. 258
- 1099** Stoddard, Richard T., Boston, Mass.—Book supporter. P 74. 258
- 1100** Young, W. A., Jacksonville, Fla.—Pencil sharpeners. H 68. 258
- 1101** Bender & Phillips, Hohokus, N. J.—Sheet wax. N 56. 258
- 1102** Mabie, Todd, & Bard, New York, N. Y.—Gold pens, cases, pencils, holders. N 43. 258
- 1103** Hall, P. W., Austin, Texas.—Postage stamp and ticket holders. N 68. 258
- 1104** Dreka, Louis, Philadelphia, Pa.—Portfolio and stationery. Specimens of steel and copper plate engraving, die sinking, printing, illuminating and designing. All work exhibited executed in our establishment. P 74. 258
- 1105** Parkhurst & Gridley, Newark, N. J.—Stationers' goods. P 68. 258
- 1106** Foley, John, New York, N. Y.—Gold pens, pencils, and penholders. N 43. 258
- 1107** Chase, John S., Union Paste & Sizing Co., 200 Mulberry street, New York, N. Y.—Preserved flour paste, for bookbinders' and general use; Eureka perfumed paste, for office, library, and household. P 77. 258
- 1108** Mason & Co., Philadelphia, Pa.—Engraving, fine stationery, illuminating, stamping, and copper plate printing. P 73. 258
- 1109** Somers, D. M., Greenport, Brooklyn, N. Y.—Penholders. P 72. 258
- 1110** Holland, John, Cincinnati, O.—Gold pens, pencil cases, penholders. N 43. 258
- 1111** United States Soapstone Manufacturing Co., Cincinnati, O.—Soapstone slate pencils, crayons for blackboard or metals, tailors' markers, hair crimpers and curlers, boot powder, shoemakers' blocks, foundry facings; manufacturers of soapstone goods of any description. P 77. 258
- 1112** Hart, Bliven, & Mead Manufacturing Co., New York, N. Y.—Stationery for the desk, paper files, clips, etc. P 70. 258
- 1113** James, Samuel, Philadelphia, Pa.—Artists' rotary color and brush-stand. P 77. 258
- 1114** Chamberlin, Whitmore, & Co., New York, N. Y.—Stationery. P 74. 258
- 1117** Walker, Tucker, & Co., Philadelphia, Pa.—Rubber hand stamps. P 74. 258
- 1118** Esterbrook Steel Pen Co., Camden, N. J.—Pens and penholders. P 72. 258
- 1119** Eagle Pencil Co., New York, N. Y.—Lead and mechanical pencils, copying crayons, penholders, stationery, wood and brass articles. P 76. 258
- 1121** Rowland, Joseph S. C., Philadelphia, Pa.—Canceling ink-pad. T 47. 258

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 1

Stationery.

- 1122 Edsall, D. A., New York, N. Y.**—Rubber hand stamps, stereotypes, folding rack pads. P 77. 258
- 1123 Morton, James, New York, N. Y.**—Gold pens, gold, celluloid, and pearl pencils and penholders. N 43. 258
- 1124 Donovan, J. W., Detroit, Mich.**—Record file covers, classified directory. P 58. 258
- 1125 Koch, Sons, & Co., New York, N. Y.**—P 76.
 a Bankers' cases, portfolios, patent binders, etc. 258
 b Blank books. 261
- 1126 Moss & Co., Philadelphia, Pa.**—P 77.
 a Stationery. 258
 b Blank books and printed books. 261
- 1127 Root, R. C., Anthony, & Co., New York, N. Y.**—P 74.
 a Office stationery. 258
 b Account books, lithographic work. 261
- 1128 Cohen, Chas. J., 26 South Fifth street, Philadelphia, Pa.**—P 74.
 a Everpoint leads for pencil cases. 258
 b Envelopes, all sizes and qualities. 259
 c Satinette copying book. 261
 d Paper boxes. 262
- 1129 Byron, Weston, Dalton, Mass.**—Ledger and record paper. Linen, strong, double-sized paper for books, where great strength and long use are required. P 75. 259
- 1129a Stratford, Hoe, & Co., Jersey City, N. J.**—P 74.
 a Tissue paper. 259
 b Press boards. 262
- 1130 Owen Paper Co., Housatonic, Mass.**—First-class linen ledger papers, bond and thin linen papers; tinted wedding royals and folios, plain and patent finished; bristol boards and staple writing papers of all kinds. P 73. 259
- 1130a Brown, L. L., Paper Co., South Adams, Mass.**—Ledger and flat papers. P 74. 259
- 1131 Southworth Co., Mittineague, Mass.**—Writing papers. P 75. 259
- 1132 Mount Holly Paper Co., Mount Holly Springs, Pa.**—Writing papers. P 73. 259
- 1133 Whiting Paper Co., Holyoke, Mass.**—Fine papers. P 77. 259
- 1134 Crescent Mills, Springfield, Mass.**—Writing papers. P 74. 259
- 1135 Holyoke Paper Co., Holyoke, Mass.**—Writing papers. P 74. 259
- 1136 Carson & Brown Co., Dalton, Mass.**—Writing paper. P 74. 259
- 1137 Parsons Paper Co., Holyoke, Mass.**—Writing paper. Manufacturers of white and tinted writing and envelope papers, of every description. P 74. 259
- 1138 Crane & Co., Dalton, Mass.**—Bond, bank-note, parchment, letter, and note paper. P 74. 259
- 1139 Parker, Joseph, Son, & Co., New Haven, Conn.**—Treasury and commercial blotting paper. Treasury blotting paper is well known for its durability and great absorbent quality, cleanliness in its use; grows soft and pliable by exposure, and never hardens on the desk. It will absorb more ink than the same thickness of papers

- of this class manufactured in the ordinary manner. J. G. Ditman & Co., Philadelphia, agents for Centennial. P 74. 259
- 1140 Campbell, Hall, & Co., New York, N. Y.**—Safety paper, for protection from erasures. P 74. 259
- 1142 Tileston & Hollingsworth, Boston, Mass.**—Steel plate, chromo, and wood-cut paper. P 77. 259
- 1143 Crane Brothers, Westfield, Mass.**—Bank ledger, record, and linen fabric papers. P 74. 259
- 1144 Hurlbut Paper Co., South Lee, Mass.**—Writing and blank book papers. P 75. 259
- 1145 Seymour Paper Co., Windsor Locks, Conn.**—P 75.
 a Writing, envelope, blotting, plate, chromo, book, and printing papers. 259
 b Colored papers. 264
- 1146 Megargee Bros., Philadelphia, Pa.**—P 74.
 a Book, plate, envelope, and writing papers. 259
 b Colored papers. 264
- 1147 Francis & Loutrel, New York, N. Y.**—P 74.
 a Manifold writers, by which letters and copies are written at the same time. 259
 b Bank ledger's spring book, patented April 30, 1879, opens freely and extra strong. Diaries published annually; safety checks, sure protection against raising, or fraud. 261
- 1147a Crane, L., jr., Dayton, O.**—P 77.
 a Paper. 260
 b Card board. 262
- 1148 Haldeman Paper Co., Lockland, Ohio.**—P 77.
 a Wrapping and carpet paper, etc. 260
 b Building and roofing paper. 263
- 1149 Jessup & Moore, Philadelphia, Pa.**—Copperplate, lithograph, and book papers, news paper. P 74. 260
- 1150 Ivanhoe Manufacturing Co., Paterson, N. J.**—Book papers, flat writing, Butler's "French folio," also in four colors; American silk copying paper, cheap colored laid writing. Specialty—animal sized writing paper in rolls. Roll one-half mile long—one continuous sheet. P 74. 260
- 1153 Howlett, Onderdonk, & Co., Philadelphia, Pa.**—Machine-made paper bags. P 73. 260
- 1155 Tangeman, Geo. P., Hamilton, Ohio.**—P 77.
 a Carpet paper. 260
 b Roofing felt. 263
- 1156 McNeill, Irving, & Rich, Elwood, N. J.**—P 74.
 a Carpet, manila, flour sack, and wrapping paper. 260
 b Waterproof building paper. 263
 c Colored papers. 264
- 1157 Mann, Wm., Philadelphia, Pa.**—Blank books for banks, parchment copying books. P 75. 261
- 1157a Meta & Willis, Dubuque, Ia.**—Specimens of bookbinding. P 77. 261
- 1158 Altamus & Co., Philadelphia, Pa.**—Photograph albums, scrap books, etc. T 76.

For classes of exhibits, indicated by numbers at end of entries, see Classification, PP 27-4

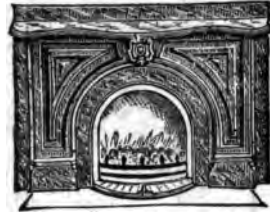
Stationery.

- 1159** Murphy's, W. F., Sons, Philadelphia, Pa.—Blank books, made to order for actual use. P 77. 261
- 1159a** Lippincott, J. B., & Co., Philadelphia, Pa.—Blank books of their own manufacture. T 72. 261
- 1160** Thomas, Chas. F., Wilmington, Del.—Index for public records, and mercantile accounts. P 76. 261
- 1161** Kohler, Ignatius, Philadelphia, Pa.—Samples of bookbinding; samples of hand-finished ornamental, artistical, tool-worked bibles and large royal photograph albums, holding from 600 to 2000 pictures. (Hand-finished by Ig. Kohler himself.) T 74. 261
- 1161a** Holman, A. J., & Co., Philadelphia, Pa.—Bookbinding and photograph albums. T 74. 261
- 1162** Burlock, Saml. D., & Co., Philadelphia, Pa.—Bookbindings. T 73. 261
- 1163** Walker, Evans, & Cogswell, Charleston, S. C.—Blank books, law blank case. P 74. 261
- 1163a** Robinson, Savage & Co., Cleveland, O.—Russia bound register books. (*Ohio State Building.*) 261
- 1164** Appleton, D., & Co., Philadelphia, Pa.—Bookbinding. (*Gallery.*) T 73. 261
- 1164a** Hinsdill, Henry M., Grand Rapids, Mich.—Office scratch-books. T 77. 261
- 1165** Sandford & Co., Cleveland, O.—Full Russia bank books. P 77. 261
- 1165a** Beckett & Cervi, Cambridge, Mass.—Specimens of bookbinding. T 74. 261
- 1166** Siddall Bros., Philadelphia, Pa.—Vellum printing, conveyancers' envelopes, and job and book printing. P 74. 261
- 1167** Lange, Little, & Co., New York, N. Y.—Wood cut, railroad, and job printing. T 78. 261
- 1168** American Tract Society, New York, N. Y.—Bookbinding. T 76. 261
- 1169** Oldach & Mergenthaler, Philadelphia, Pa.—Bookbinders' work. T 75. 261
- 1170** Houghton, H. O., & Co., Riverside Press, Cambridge, Mass., Hurd & Houghton, New York.—Specimens of their publications, in fine library and law bindings, among them the "Massachusetts Reports," in law calf; the "Butterflies of North America," in crushed levant and vellum; "Smith's Unabridged Bible Dictionary," and "Knight's American Mechanical Dictionary," in grained levant; the special feature being a copy of "Webster's Unabridged Dictionary," manufactured at the Riverside Press, in illuminated vellum. T 76, on the *Pavilion of the American Book Trade Association.* 261
- 1171** Reed, A., & Co., Philadelphia, Pa.—Ornamental bookbinding. T 74. 261
- 1171a** New York Catholic Protector, New York, N. Y.—Printing. V 53. 261
- 1172** Lindsay & Blakiston, Philadelphia, Pa.—Specimens of binding. T 73. 261
- 1173** Boorum & Pease, New York, N. Y.—Blank books. P 75. 261
- 1174** Bradley & Gilbert, Louisville, Ky.—P 75.
a Blank books, specimens of printing. 261
b Bonnet boards, file paper boxes. 261
- 1175** Kerr, N. M., & Co., Philadelphia, Pa.—Paper boxes, jewelers' findings. P 75. 261
- 1175a** Richardson, J. N., Boston, Mass.—Playing cards. P 78. 261
- 1176** Dixon, Charles A., & Co., Philadelphia, Pa.—Engraved wedding and visiting cards, invitations, heraldic designs, and illuminations in monograms. P 75. 261
- 1177** American Paper Box Co., Philadelphia, Pa.—Fancy paper boxes. P 74. 261
- 1178** Porter & Bainbridge, New York, N. Y.—Cardboard, stationery, papeteries, etc. N 72. 261
- 1179** Dennison & Co., Boston, Mass.—Jewelers' paper boxes, cards, tags, labels, seals, tissue papers, sealing wax, jewelers' and surgical cotton. P 75. 261
- 1180** Osborn, Bennet, Newark, N. J.—Paper boxes. P 73. 261
- 1181** Dennison & Brown, Portland, Me.—Wood pulp and products, paper boxes, etc. P 77. 261
- 1182** Cornell & Shelton, Birmingham, Conn.—Folding paper boxes. P 74. 261
- 1183** Crompton, John, & Co., Philadelphia, Pa.—Jewelers', druggists', and perfumers' boxes. P 74. 261
- 1184** Rhode Island Cardboard Co., Pawtucket, R. I.—Cardboard, cards for printers and photographers, manilla tag stock. P 74. 261
- 1185** McClement Brothers, Philadelphia, Pa.—Embossed business cards, embossed labels, cut and gummed, and impressions from notarial and society seals. P 74. 261
- 1186** Nashua Card & Glazed Paper Co., Nashua, N. H.—Fancy paper boxes, colored paper and cardboard. P 74. 261
- 1186a** Zennig, R. H., & Co., New York, N. Y.—Fancy paper boxes. P 43. 261
- 1187** Dougherty, A., New York, N. Y.—Playing cards. P 77. 261
- 1188** Beck, Charles, Philadelphia, Pa.—P 76.
a Cards, cardboard. 261
b Fancy, colored, glazed, enameled, and embossed papers. 261
- 1188a** Scott, T. Seymour, & Bro., Philadelphia, Pa.—P 77.
a Bonnet and carpet boards. 261
b Paper carpet and building paper. 261
- 1189** Davey, W. O., & Sons, Jersey City, N. J.—P 77.
a Binders' trunk and box boards. 261
b Oakum. 666
- 1190** Stelwagon, Jos., & Sons, Philadelphia, Pa.—Raw roofing paper; prepared roofing and sheathing paper; carpet and sheathing paper. P 76. 261
- 1193** Grice, Jas., & Sons, Downingtown, Pa.—Wrappers for paper manufacturers. P 77. 261
- 1194** Gordon, A. Dunlop, Philadelphia, Pa.—Building and manila concrete felt. P 74. 261
- 1195** Case Brothers, South Manchester, Conn.—Paper boards. P 74. 261

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26



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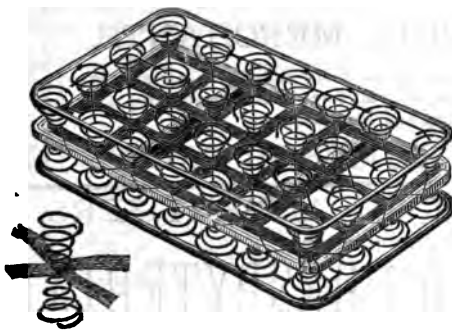
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Paper Manufactures, Firearms, Ammunition.

- 1196 Barrett, Arnold, & Kimball, Chicago, Ill.**—P 76.
 a Aluminous and ornamental building paper. 263
 b Paper oil cloth. 264
- 1197 Van Skelline, Theo., Brooklyn, N. Y.**—Motto papers and motto flowers. P 74. 264
- 1197a Goth, Herman J., Bethlehem, Pa.**—Oil-painted-washable wall paper. A. Goth & Co.'s patents improved. This paper is a most valuable invention, and as to beauty, smoothness, durability, and cheapness, it is superior to oil-painted walls. P 59. 264
- 1198 Dejonge, Louis, & Co., New York, N. Y.**—Fancy colored, glazed, plated, enameled, varnished, embossed, and printed papers. P 74. 264
- 1199 Beck, Fr., & Co., 206 & 208 West Twenty-ninth street, New York, N. Y.**—Wall papers. The goods exhibited by this firm are of two classes: one made by hand-printing alone, the other by machinery alone. In the former a great variety of colors can be used, matching furniture coverings and draperies, if desired, and, indeed, the appearance of watered silks, or satins, or rich embroidered stuffs, can be so closely imitated that the printed paper can scarcely be distinguished from the genuine fabric. The goods made by machinery are commended for skill in workmanship, for graceful drawing in pattern, for a close resemblance to hand-printed papers, and for cheapness in price. P 76. 264
- 1200 Howell & Brothers, Philadelphia, Pa.**—Paper hangings, borders, fireboard prints, and window papers. P 76. 264
- 1200a Spurr, Chas. W., Boston, Mass.**—Wood hangings and marquetrys. P 73. 264
- 1201 Howell & Bourke, Philadelphia, Pa.**—Paper hangings and fresco decorations. P 59. 264
- 1202 Westerberg, Jefferson, & Co., New York, N. Y.**—Decorations and embossed gold papers. P 76. 264
- 1203 Nagle, Cook, & Ewing, Philadelphia, Pa.**—Decorative paper hanging. T 55. 264
- Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.**
- 1204 Union Metallic Cartridge Co., Bridgeport, Conn.**—Metallic shells, bullets, wads, and percussion caps; cartridge machinery. H 70. 265
- 1205 Sparks, Thos. W., Philadelphia, Pa.**—Drop-shot, mould, and conical balls. H 71. 265
- 1206 Billings & Spencer Co., Hartford, Conn.**—Breechloading firearms. H 72. 265
- 1207 Remington, E., & Sons, Ilion, N. Y.**—Firearms and ammunition. H 67. 265
- 1208 Smith & Wesson, Springfield, Mass.**—Revolving firearms. H 69. 265
- 1209 Colt's Patent Firearms Manufacturing Co., Hartford, Conn.**—Breechloading military and sporting small-arms, and military and pocket revolvers for metallic ammunition. H 72. 265
- 1210 Gardner, Wm., Hartford, Conn.**—Breechloading cannon, machine guns, magazine shoulder arms. H 70. 265
- 1211 Forehand & Wadsworth, Worcester, Mass.**—Revolving military and sporting firearm. H 71. 265
- 1212 Rawbone, Thos., Newark, N. J.**—Cartridge-creaser. H 72. 265
- 1213 Whitney Arms Co., Whitneyville, Conn.**—Breechloading military and sporting rifles, carbines, shotguns, revolvers, etc., with ammunition. H 68. 265
- 1214 Sharps Rifle Co., Bridgeport, Conn.**—Rifles. H 72. 265
- 1215 Merchants' Shot Tower Co., Baltimore, Md.**—Drop and mould shot. Capacity, one million bags per annum. Patent-improved style soft bar lead. H 71. 265
- 1216 Burgess, Andrew, Owego, N. Y.**—Magazine rifles for military and sporting purposes. H 68. 265
- 1217 Goldmark, Joseph, New York, N. Y.**—Percussion caps, primers, burglar alarm exploders, blasting detonators, metallic and paper cartridges, metal and paper boxes. H 71. 265
- 1218 Lovell, John P., & Sons, Boston, Mass.**—Revolvers. H 72. 265
- 1219 Dana, Edw. A., Boston, Mass.**—Expanding projectiles for rifled cannon. H 72. 265
- 1220 Schoverling & Daly, New York, N. Y.**—Hunting and target rifles, revolvers, breechloading implements. H 70. 265
- 1221 Winchester Repeating Arms Co., New Haven, Conn.**—Magazine or repeating military and sporting firearms, metallic cartridges for small arms. H 72. 265
- 1222 Wesson, Frank, Worcester, Mass.**—Breechloading sporting and pocket target rifles. H 70. 265
- 1223 Rupertus, Jacob, Philadelphia, Pa.**—Revolvers and repeating pistols. H 70. 265
- 1224 United States Cartridge Co., Lowell, Mass.**—Metallic cartridges. Manufacturers of a perfect brass shell, central fire, solid head cartridge, capable of reloading many times; also, manufacturers of central and rim fire ammunition, of all kinds. H 72. 265
- 1225 American Arms Co., Boston, Mass.**—Double-barreled, breechloading shotguns, and locks. H 72. 264
- 1226 Merwin, Hulbert, & Co., New York, N. Y.**—Revolving firearms and magazine gun, military and sporting metallic cartridges. H 70. 265
- 1227 Evans' Rifle Manufacturing Co., Mechanic Falls, Me.**—Magazine rifle, carbine, and musket. H 70. 265
- 1227a Clark & Snider, Baltimore, Md.**—Guns and parts of breechloading shotguns. H 71. 265
- 1228 Willis, Aug. L., Philadelphia, Pa.**—Time and percussion shell fuse. H 68. 265
- 1229 Miller, Wm. Deeds, New York, N. Y.**—Firearms. H 70. 265
- 1230 Schneelock, Otto, Brooklyn, N. Y.**—Self-indicating target. H 70. 265

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-

Weapons, Ammunition, Medicines.

- 1231 Stevens, J., & Co., Chicopee Falls, Mass.**—Breechloading shotguns, rifles, and pistols. They now supply thoroughly well-made strong and close-shooting breech-loading double shotguns, 10 or 12 gauge twist, \$40.00; laminated steel, \$45.00; extra finish, \$55.00. Their rifles and pocket rifles shoot with wonderful accuracy. Circulars and full particulars on application to their agent, Charles Folsom, 53 Chambers street, New York, or H 71 Main Building. H 71. 265
- 1232 Stoddard, Charles J., Washington, D. C.**—Cartridge-loading implement. H 72. 265
- 1233 Gatling, Richard J., Hartford, Conn.**—Battery gun. This celebrated machine gun fires from 800 to 1000 shots per minute, has great accuracy, and the larger calibres have an effective range of over two miles. Manufactured by the Gatling Gun Company, at Hartford, Conn. H 70. 266
- 1234 Witty, Calvin, New York, N. Y.**—Breechloading field cannon. H 69. 266
- 1235 Nekervis, Wm., Philadelphia, Pa.**—Model of Parrott gun, with caisson complete. H 72. 266
- 1236 South Boston Manufacturing Co., Boston, Mass.**—Bronze and steel rifle cannon, boat howitzer. H 71. 266
- 1237 Boon, B., West Medford, Mass.**—Miniature field artillery, limber, and field piece. H 72. 266
- 1238 Ridgway, John, Heirs of, Boston, Mass.**—Revolving battery. H 69. 267
- 1239 Stevens Institute of Technology, Hoboken, N. J.**—Model of the Stevens battery. T 67. 267
- 1239^a Paulding, Kemble, & Co., Cold Spring, N. Y.**—Model of gun carriage. H 72. 267
- 1240 Ames Manufacturing Co., Chicopee, Mass.**—United States regulation, masonic, and society swords. H 72. 268
- 1241 Collins & Co., New York, N. Y.**—Machetes, swords, bayonets, etc. N 67. 268
- 1242 Gaylord Manufacturing Co., Chicopee, Mass.**—Presentation and society swords. N 70. 268
- 1243 Wurflein, Wm., Philadelphia, Pa.**—Parlor or gallery rifles and mechanical targets. H 72. 269
- 1244 Krider, John, Philadelphia, Pa.**—H 72. 269
a Guns, pistols. 260
A Fishing tackle and sporting goods. 270
- 1245 Providence Tool Co., Providence, R. I.**—Breechloading rifles for military, target, and sporting purposes. Manufacturers of "Peabody-Martini" rifles, for military, target, and sporting purposes. The standard arm of Great Britain, noted for strength, accuracy, simplicity, and heavy 1500-gr. shot have been fired at the factory. From 200,000 of these rifles, without accident, also manufacturers of heavy hardware, ship-chandlers' and sail-makers' hardware, nuts, bolts, hinges, etc. H 72. 269
- 1246 Tryon, E. K., Jr., & Co., Philadelphia, Pa.**—Muzzle loading rifles, shotguns, revolvers, gunmakers' tools, etc. H 72. 269
- 1247 Harder, J., & Son, Lock Haven, Pa.**—Single, double, and three-barrel guns. Manufacturers of all kinds of muzzle-loading guns. H 71. 269
- 1248 Parker, Chas., Meriden, Conn.**—Double-barreled breechloading shot guns. H 70. 269
- 1249 Harrington & Richardson, Worcester, Mass.**—Revolving firearms with shell ejector. H 72. 269
- 1250 Burton, Bethel, Brooklyn, N. Y.**—Military and sporting magazine rifles, bayonets, portable cartridge reloader. H 72. 269

Medicine, Surgery, Prosthesis.

- 1252 Boericke & Tafel, 635 Arch street, Philadelphia, Pa.**—Official homoeopathic medical preparations, books and periodicals. Manufacturing homoeopathic pharmacists. Complete assortment of homoeopathic medicines, in their different degrees and forms, for physicians, families and druggists; sugar of milk, pellets, capsules, corks, vials. Publishers of homoeopathic literature. N 50. 272
- 1252^a Planten, H., & Son, New York, N. Y.**—Gelatin capsules. N 58. 272
- 1253 Wallace Bros., Stateville, N. C.**—Wholesale dealers in southern roots, herbs, barks, flowers, seeds, etc., of fine quality. Orders solicited. N 58. 272
- 1253^a Dick, Dundas, 35 & 37 Wooster street, New York.**—Tasteless medicines. These soft capsules are acknowledged by the most eminent physicians a true method to administer nauseous medicines, which often detract from, if they do not destroy, the beneficial effects of some of the most valuable remedies prescribed. No patent or proprietary medicines are put up in soft capsules. Explanatory circulars free at every drug store in the United States. These capsules were admitted to the last Paris Exposition. T 50. 272
- 1254 Seabury & Johnson, New York, N. Y.**—Plasters. T 44. 272
- 1255 Mitchell, Geo. E., Lowell, Mass.**—Surgical, medicinal, and pharmaceutical plasters and plaster compounds, lung protectors. N 53. 272
- 1256 Fehr, Julius, Hoboken, N. J.**—Compound talcum—baby powder. The hygienic dermal powder, useful for infants and adults, containing most valuable therapeutic properties. N 52. 272
- 1257 Randle, Wm. H., Baltimore, Md.**—Botanical medicines. N 52. 272
- 1258 Tims, Wm., Paterson, N. J.**—Homoeopathic pellets. N 52. 272
- 1259 Wilson, B. O. & G. C., Boston, Mass.**—Pressed medicinal herbs, leaves, flowers, seeds, roots, barks, etc. N 52. 272
- 1260 Smith's Homoeopathic Pharmacy, New York, N. Y.**—Homoeopathic preparations in tinctures, triturations, and globules, cases for professional and family use. N 54. 272
- 1261 Ayer, J. C., & Co., Lowell, Mass.**—Cherry pectoral, catarrhic pills, curapilla, acute cure, hair vigor. N 51. 272

For location of objects, indicated by letter and figure, see Key to Notation, p. 45; ground plan, p. 46

Medicines, Surgical Appliances.

- 1263 Blair's, H. C., Sons, Philadelphia, Pa.**—T 47.
 a Wheat food. 273
 b Fountain syringes. 274
- 1263 Hance Bros. & White, Philadelphia, Pa.**—Conical plate drug mill and filtering apparatus. P 43. 274
- 1263a Rohrbeck & Goebeler, New York, N. Y.**—School air pump. N 55. 274
- 1264 Bishop, Joaquin, Sugartown, Chester Co., Pa.**—Platina crucibles, stills, bottles, blowpipe tubes, ignition tubes, etc. Manufacturers of platinum crucibles, ignition tubes, stills, bottles, wire, and articles used by analytical chemists; refining and melting of scrap or native grain platinum. Old platinum bought and taken in exchange. P 49. 274
- 1265 Gilbert, Alfred A., Philadelphia, Pa.**—Medicine chest and saddlebags. N 51. 274
- 1266 Hechelman, H. W., Allegheny City, Pa.**—Anatomical preparations of human ear and eye. N 54. 275
- 1266a Seaman, Louis Livingston, New York, N. Y.**—Auscultatory percussor, for diagnosing. N 58. 275
- 1266b Longaker, H. D., Allentown, Pa.**—Surgical and anatomical specimens of malignant tumors. T 47. 275
- 1266c Bowen, Truman, Boston, Mass.**—Casting in the lungs of a calf. N 54. 275
- 1267 McIlroy, T., New York, N. Y.**—Invalid, elevating, and fracture beds, surgical operating and dissecting tables, oculists' and surgical operating chair. N 50. 276
- 1267a Whittemore, Joshua, Wakefield, Mass.**—Elastic crutches. H 72. 276
- 1268 Condell, J., & Son, New York, N. Y.**—Artificial limbs. N 58. 276
- 1268a Vaughan, W. R., Council Bluffs, Ia.**—Belt trusses and supporters. N 58. 276
- 1269 Everett, B. C., Philadelphia, Pa.**—Trusses, supporters, shoulder braces, elastic stockings, belts, and artificial limbs. N 56. 276
- 1269a Shepard & Dudley, New York, N. Y.**—Surgical instruments and orthopedic apparatus. N 58. 276
- 1270 Taylor, Charles F., New York, N. Y.**—Orthopedic apparatus and machines for local exercise. N 52. 276
- 1270a Day, G. Hayden, Bennington, Vt.**—Fracture splints. N 55. 276
- 1271 Tiemann, Geo., & Co., No. 67 Chatham street, New York, N. Y.**—Manufacturers of surgical instruments and orthopedic appliances. Established in 1826; branch store, 107 East Twenty-Eighth street, New York; steam factory, 81, 83, and 85 Boerum street, Brooklyn, E. D. Exhibit a most complete and compact operating set, containing, in ten compartments, over one hundred and eighty instruments, ample for every modern operation; specimens of operating cases used in America; Heine's osteotome for resection; Tiemann & Co.'s new rotating-blade osteotome; Tiemann & Co.'s new apparatus for fracture of arm and leg; anatomical syringe; Dawson's cautery battery, smallest battery known; Tiemann & Co.'s patent and other aspirators; patent steam atomizer; patent automatic and other hypodermic syringes; laryngoscopes; ophthalmologists', aurists', gynecologists', and other instruments; a variety of entirely new instruments of American origin, etc., etc. All articles exhibited are Tiemann & Co.'s own manufacture. Their catalogue, bound in cloth, numbering four hundred and twenty-six pages, and containing over fifteen hundred engravings, can be obtained in New York for the cost of binding—seventy-five cents. N 51. 276
- 1271a Newbauer, Wm. G., Long Island City, N. Y.**—Medical-plaster spreading machine. P 47. 276
- 1272 Marks, A. A., New York, N. Y.**—Artificial limbs, india rubber hands and feet. N 58. 276
- 1272a Lee, Benjamin, Philadelphia, Pa.**—Apparatus for the treatment of spinal curvatures. N 56. 276
- 1273 Woods, J. T., Toledo, O.**—Splint for leg and thigh. N 59. 276
- 1273a Ahl, David, Newville, Pa.**—Adaptable porous splints. P 71. 276
- 1274 Pilling, Geo. P., Philadelphia, Pa.**—Gold, silver, and plated surgical instruments. N 52. 276
- 1275 Mervine, S. P., jr., Philadelphia, Pa.**—Gynecological apparatus. N 52. 276
- 1276 Gemrig, J. H., Philadelphia, Pa.**—Surgical instruments and appliances. N 57. 276
- 1277 Perry, Vincent, Germantown, Pa.**—Elastic bandages for surgical purposes. N 57. 276
- 1278 National Surgical Institute, Indianapolis, Ind.**—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276
- 1279 Penfield, E. C., & Co., Philadelphia, Pa.**—Trusses, etc. N 59. 276
- 1280 Elastic Truss Co., New York, N. Y.**—Elastic trusses and abdominal supporters. N 56. 276
- 1281 Blanck, Wm., & Son, Philadelphia, Pa.**—Artificial limbs and appliances. N 58. 276
- 1283 Leiner, M., New York, N. Y.**—Surgical instruments, ear cleaners, filtering racks. P 66. 277
- 1284 Rhodes, Isaac M., Hancock, Mich.**—Easy chair, invalid bed, and fracture apparatus combined. N 59. 277
- 1285 Clement, Richard, Philadelphia, Pa.**—Artificial limbs. N 58. 276
- 1286 Horn, W. H., & Bro., Philadelphia, Pa.**—Trusses, abdominal supporters, etc. N 59. 276
- 1287 Darrach, S. A., Newark, N. J.**—Wheel crutch and attachments; vulcanized rawhide spine support. N 58. 276
- 1288 Goodier, John, Philadelphia, Pa.**—Lever and shield trusses for ruptures. N 58. 276
- 1289 Crandall, Chas. J., New York, N. Y.**—Crutches. N 56. 276
- 1290 Wickett & Bradley, New York, N. Y.**—Artificial limbs. N 57. 276
- 1290a Beckel, August, & Son, Philadelphia, Pa.**—Crutches. 276
- 1291 Hinkle & Mayon, San Francisco, Cal.**—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27

Medical and Surgical Appliances, Tools.

- 1292 Handy & Boland, Atlanta, Ga.**—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276
- 1293 Kolbe, D. W., Philadelphia, Pa.**—Surgical and orthopedical instruments; artificial limbs. N 53. 276
- 1294 Triumph Truss Co., New York, N. Y.**—Truss and supporter. N 53. 276
- 1295 Kern, Horatio G., Philadelphia, Pa.**—Surgical and dental instruments. N 56. 276
- 1296 Foster, James A., Philadelphia, Pa.**—Artificial limbs. These limbs are manufactured at Philadelphia, Pa.; Cincinnati, O.; St. Louis, Mo.; Chicago, Ill.; and Detroit, Mich. Illustrated descriptive pamphlets free. N 53. 276
- 1297 Pingree, Luther F., Portland, Me.**—Artificial limbs. N 53. 276
- 1298 Otto, F. G., & Sons, New York, N. Y.**—Surgical instruments and orthopedical appliances. N 53. 276
- 1299 Bartlett, Butman, & Packer, Boston, Mass.**—Trusses. N 51. 276
- 1300 Frees, C. A., New York, N. Y.**—Artificial limbs and extensions. N 56. 276
- 1301 Palmer, B. Frank, LL.D., Philadelphia, Pa.**—New patent leg and arm, safety socket united to the stump, securing positive comfort. Original patent, 1846; new patent, perfected, 1873. New automatic system, for universal motion, power, and sound applied to writing, printing, music, etc. Original writing machine (type-writer) made in 1851, perfected in 1876. N 54. 276
- 1302 Seeley, I. B., Philadelphia, Pa.**—Hand rubber trusses, abdominal supporters, pile instruments, elastic surgical hose, bandages, etc. N 53. 276
- 1303 McElroy, P. J., East Cambridge, Mass.**—Glass and tannin syringes, feeding and drinking tubes, nipple shields, medicine droppers, etc. N 51. 276
- 1304 Miller, Jas. S., Philadelphia, Pa.**—Trusses and braces. N 55. 276
- 1305 Rowand, John K., Philadelphia, Pa.**—Gynecological apparatus. N 51. 276
- 1307 Allen & Johnson, Philadelphia, Pa.**—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276
- 1308 Bethell, John P., Philadelphia, Pa.**—Surgical and gynecological apparatus. See also 1309. N 51. 276
- 1309 Philadelphia Truss Co., Philadelphia, Pa.**—Trusses, supporters, splints, crutches, and other mechanical appliances. N 53. 276
- 1310 Gunning, Thomas Brian, 84 East Twenty-first Street, New York, N. Y.**—Surgical, law and medical, including Section Sixty-six, and other mechanical appliances, tools, and instruments. N 51. 276
- 1311 Spillman, Henry, New Orleans, La.**—Trusses, supporters, and splints. N 53. 276
- 1312 Davis, James T., New York, N. Y.**—Artificial limbs. N 53. 276
- 1313 Teeter, J. J., office and factory, 100 South Fifth Street, Philadelphia, Pa.**—Surgical instruments. N 53. 276
- 1314 Codman & Shurtleff, Boston, Mass.**—N 57.
a Surgical instruments, apparatus and appliances. 276
b Dental instruments, furniture, and materials; laboratory tools, etc. 277
- 1315 Justi, H. D., Philadelphia, Pa.**—Artificial teeth, tools, and materials for their manufacture. N 54. 277
- 1316 Johnson & Lund, Philadelphia, Pa.**—Artificial teeth, corundum wheels, gold foil, tooth powders, amalgams, dental instruments and materials. N 59. 277
- 1316a Neve, Edward, Omaha, Neb.**—Artificial teeth. N 58. 277
- 1317 Wardle, Thos., Philadelphia, Pa.**—Artificial teeth and models. N 58. 277
- 1317a Chapman, John Winslow, Hyannis, Mass.**—Artificial teeth. N 58. 277
- 1318 Brown, E. Parmlly, Flushing, N. Y.**—Gold fillings in human teeth, dentists' cases, dental improvements. N 57. 277
- 1319 White, Samuel S., Philadelphia, Pa.**—Artificial teeth, instruments, chairs, dental engines, stools, lathes, brackets, spittoons, gold foils, corundum wheels, etc. N 55. 277
- 1320 White, Chas. A., Philadelphia, Pa.**—Celluloid apparatus and dental flasks, process of forming sets of artificial teeth, artificial dentures. N 56. 277
- 1321 Metcalf, David H., Battle Creek, Mich.**—Tinman's pattern sheets and squares. N 63. 28c
- 1322 Allen, J., & Son, New York, N. Y.**—Artificial dentures. N 57. 277
- 1323 Abbey, Chas., & Sons, Philadelphia, Pa.**—Dentists' fine gold foil, soft or non-adhesive and adhesive. Our specialty for fifty years. N 58. 277
- 1324 Bonwill, W. G. A., Philadelphia, Pa.**—Electro-magnetic mallet for filling teeth, carving marble, chasing metals, and as an autographic printing press; dental chair and engine. N 59. 277
- 1325 Taylor, J. Hare, Philadelphia, Pa.**—Tooth paste, etc. N 57. 277
- 1326 Wardle, S., Cincinnati, O.**—Specimens of dentistry. N 58. 277
- 1327 Neall, Daniel W., Camden, N. J.**—Porcelain teeth. N 57. 277
- 1329 Crowther, D. W., Hagerstown, Md.**—Mechanical and operative dentistry. N 58. 277
- 1330 Scott, Quincy A., Pittsburg, Pa.**—Atmospheric disk for holding artificial teeth in the mouth, dental specimens, dentures. N 56. 277
- 1331 Ludwig, Schmidt & Mohl, Houston, Texas**—Name. specimens of teeth. N 51. 277
- 1332 Vallean, William, Jr., New York, N. Y.**—Gold and silver leaf, gold and platinum filling for dentists' use. N 53. 277
- 1334 Cutter, Ephraim, Cambridge, Mass.**—Adjustable chair for invalids. N 55. 278
- Hardware, Edge Tools, Cutlery, Metallic Products.**
- 1335 Collins & Co., New York, N. Y.**—2nd steel tools, wedges. N 57. 28c
- 1336 Elgin National Watch Co., Elgin, Ill.**—Watchmakers' tools. P 57. 28c

Hardware, Tools, Cutlery.

- 1336a** Sheperdson, H. S., & Co., Shelburn Falls, Mass.—Diamond, pod, and screw driver bits, nail sets, gimlets, tool cases, etc. H 68. 280
- 1337** Douglas Axe Manufacturing Co., Boston, Mass.—Axes, hatchets, adzes, picks, etc. N 67. 280
- 1338** Pugh, Job T., Philadelphia, Pa.—Screw augers and auger bits. Known as an old established manufacturer of augers and bits; established 1774; a descendant of the inventor of the screw auger. These augers are known to all who use them, as the old hand-made auger, thereby gaining great durability. N 72. 280
- 1338a** Ernst & Elterich, Jersey City, N. J.—Tools. N 68. 280
- 1339** Conard, A. & I., Whitmarsh, Pa.—Cast steel wood-boring implements. P 71. 280
- 1339a** Eagle Square Manufacturing Co., South Shaftsbury, Vt.—Boring machines, squares, and rules. P 78. 280
- 1340** Elmira Nobles' Manufacturing Co., Elmira, N. Y.—Carpenters' and shipwrights' tools. N 71. 280
- 1340a** Buck, Charles, Milbury, Mass.—Edge tools. N 71. 280
- 1341** Quint, S. H., & Son, Philadelphia, Pa.—Stencils, stamps, checks, tags, etc.; metallic pattern letters, for raised lettering on castings, names, addresses, etc. H 71. 280
- 1341a** Genkinger, Adolph, Newark, N. J.—Tools, etc. N 68. 280
- 1342** Carter, Edwd., Troy, N. Y.—Nickel-plated goods; planes, mechanics' tools. P 69. 280
- 1342a** Howell, S. J., Orange, Mass.—Polishing lathes and wheels, tweezers, saw frames. N 68. 280
- 1343** Stanley Rule & Level Co., New Britain, Conn.—Rules, levels, squares, and carpenters' tools. N 68. 280
- 1343a** Holland, James C., New York, N. Y.—Self-threading surgical and sewing machine needles, sail and packing needles. F 71. 280
- 1344** Billings & Spencer Co., Hartford, Conn.—Drop forgings, machinists' small tools, sewing machine shuttles. H 72. 280
- 1344a** Bossard, H., Philadelphia, Pa.—Watchmaker's slide rest. N 43. 280
- 1345** Eddy, Geo. M., & Co., Brooklyn, N. Y.—Fine steel band saws and tempered steel springs. N 57. 280
- 1345a** Fry's Bookbinder's Stamp & Tool Manufactory, Philadelphia, Pa.—Stamps and tools for the embellishment of books. T 75. 280
- 1346** Rose, Wm., & Bros., Philadelphia, Pa.—Bricklayers', plasterers', moulders' and saddlers' tools. N 72. 280
- 1346a** Douglass Manufacturing Co., New York, N. Y.—Mechanics' tools, cutting and boring implements. N 70. 280
- 1347** Colton, Alfred J., Philadelphia, Pa.—Stair hand-rail planes and double-edge routers, carpenters' moulding planes. N 69. 280
- 1348** Pratt, Jas. T., & Co., New York, N. Y.—Tool chests for amateurs or mechanics. N 68. 280
- 1349** Maltby, Curtiss, & Co., New York, N. Y.—Nail puller. B 77. 280
- 1350** Kohler, Martin, Philadelphia, Pa.—Knee-rest for tailors. N 70. 280
- 1351** Carter, Henry, New York, N. Y.—Moulders' and plasterers' tools. N 70. 280
- 1352** Sinsz, Philip, Baltimore, Md.—Glaziers' diamonds, machinery for circular and oval cutting, engravers' points, carbon tools. N 68. 280
- 1353** King, Josiah, & Son, New York, N. Y.—Planes and tools for wood workers. N 71. 280
- 1354** Booth, John, & Son, Philadelphia, Pa.—Carpenters' tools and sundries. N 69. 280
- 1355** Barton, D. R., Tool Co., Rochester, N. Y.—Mechanics' edge tools. N 70. 280
- 1356** American Shovel Co., Birmingham, Conn.—Shovels and scoops. P 68. 280
- 1357** Johnson, Wm., Hedenberg Works, Newark, N. J.—Carpenters' and other mechanics' tools and hardware. N 69. 280
- 1358** Hampton, Chas. F., Ardmore, Pa.—Augers and bits. N 71. 280
- 1359** Ten Eyck Axe Manufacturing Co., Cohoes, N. Y.—Axes, carpenters' edge tools, etc. N 68. 280
- 1360** White, Wm., Newark, N. J.—Axes, hatchets, adzes, bush hooks, stone hammers, picks, etc.; carriage shaft-couplings. P 71. 280
- 1361** Selsor, Geo., & Co., Philadelphia, Pa.—Hammers, edge and railroad tools, coffee mills, slaw cutters, tacks, and nails. N 68. 280
- 1362** Star Tool Co., Middletown, Conn.—Machinists' and carpenters' tools; squares, bevels, gauges, standard steel rules, etc.; blind trimmings. These goods are of the finest finish; the squares are perfectly accurate and of different varieties, adapted to the wants of workers in wood or iron; the rules are graduated onspring-tempered steel, and are made only by this company. P 67. 280
- 1362a** Gardam, William, & Son, New York, N. Y.—Index plates, dividing and drilling machines. N 68. 280
- 1363** Snell Manufacturing Co., Fiskdale, Mass.—Augers, auger bits, and boring machines. P 71. 280
- 1364** Buck Bros., Riverlin Works, Milbury, Mass.—Shank and socket firmer chisels and gouges, plane irons, screw drivers, nail sets, etc. N 69. 280
- 1365** Maydole, D., & Co., Norwich, N. Y.—Cast steel hammers. N 71. 280
- 1366** Foerster & Kraenter, Newark, N. J.—Tools. N 68. 280
- 1367** Davis Level & Tool Co., Springfield, Mass.—Adjustable levels and planes and iron planes. P 71. 280
- 1368** DeWitt, Morrison, & Kelley, Philadelphia, Pa.—Carpenters', millwrights', gasfitters', pump, and car builders' machine and auger bits. These are the celebrated arrow brand for boring all kinds of wood. P 71. 280
- 1369** Shepherd & Lloyd, Philadelphia, Pa.—Scales, glass cutters, lard presses, and hardware specialties. N 71. 280
- 1370** Rowland, B., & Co., Philadelphia, Pa.—Shovels, spades, and scoops; draining and ditching tools. N 71. 280

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

Hardware, Tools, Cutlery.

- 1371 Yerkes & Plumb, Philadelphia, Pa.—Edge tools, hammers; railroad, mining, and blacksmiths' sledges. N 70. 280
- 1372 Bailey, Leonard, & Co., Hartford, Conn.—Bench planes, try squares, bevels. N 68. 280
- 1373 Mayo, M. C., Boston, Mass.—Plane. P 71. 280
- 1374 Miller, Edward, & Co., Meriden, Conn.—N 48. 280
a Machine oilers. 280
b Tinners' hardware. 284
- 1375 Bemis & Call Hardware & Tool Co., Springfield, Mass.—Machinists' tools. P 72. 280
- 1376 Newton, C. C., Dunkirk, N. Y.—Twisted drill taps, dies, and reamers. T 60. 280
- 1377 Ives, W. A., & Co., New Haven, Conn.—Wood-boring implements, bit braces. N 72. 280
- 1378 Mills, E., & Co., Philadelphia, Pa.—Braces, bits, bevels, screwdrivers, spokeshaves, squares, and saw pads. P 68. 280
- 1379 Donaldson, J. W., Massillon, Ohio.—Block stamps for stamping garments for braiding and embroidery. P 68. 280
- 1380 Bailey Wringing Machine Co., New York, N. Y.—Metallic bench planes, spokeshaves, box scrapers, etc. N 69. 280
- 1381 Klein, Logan, & Co., Birmingham Tool Manufactory, Birmingham, Pa.—Picks, mattocks, fire shovels, etc. N 71. 280
- 1382 Crossman, A. W., & Son, West Warren, Mass.—Carpenters' hand tools. N 70. 280
- 1383 Nixon, G. W. C., New York, N. Y.—Engravers' tools. N 68. 280
- 1384 Ohio Tool Co., Columbus, O.—Planes, screws, edge tools, plane irons, handles, etc. N 71. 280
- 1385 Palmer, Wm. F., Berry street, bet. Fourth & Fifth streets, San Francisco, Cal.—Edge tools. All tools warranted of excellent cutting qualities. N 70. 280
- 1385a Rue, Theodore, Philadelphia, Pa.—Stencils and tools, nickel-plated signs and numbers, steel stamps. T 54. 280
- 1386 Taylor, Thomas, cor. Eddy & Friendship streets, Providence, R.I., P.O. box 993.—Bloodstone burnishers. Bloodstone burnishers and reflectors made to order. N 71. 280
- 1387 Smyth & Pennington, Paterson, N. J.—Files and rasps. N 69. 280
- 1388 Whitney Manufacturing Co., South Ashburnham, Mass.—Tools used in manufacturing chairs. W 50. 280
- 1389 Franklin, Mrs. Esther P., Philadelphia, Pa.—Marking stencils and branding irons. T 58. 280
- 1390 Sandusky Tool Company, Sandusky, O.—Planes, plane irons, bench and hand screws, chisel and file handles. P 71. 280
- 1391 Hopkins, C., Waltham, Mass.—Watchmakers' tools. N 68. 280
- 1392 Tower, John J., New York, N. Y.—N 68. 280
a Carpenters' planes, wrenches, adjustable clamps. 280
b Handcuffs and police implements, padlocks. 284
- 1393 Harrison & Kellogg, Troy, N. Y.—N 68. 280
a Screw wrenches. 280
b Plain, tinned, japanned, and nickel-plated malleable iron castings to order, in all varieties; extra refined air-furnace irons. (Low freights open all the year.) 283
- 1394 Wills, Edwin S., Philadelphia, Pa.—N 69. 280
a Tools. 280
b Wood screws, etc. 284
- 1395 Miller's Falls Co., Miller's Falls, Mass.—P 71. 280
a Mechanics' tools. 280
b Hardware. 284
- 1396 Lloyd, Supplee & Walton, Philadelphia, Pa.—P 70. 280
a Hollow auger, spokeshave. 280
b Locks. 284
- 1397 Vatterlein, John, Plainfield, N. J.—N 69. 280
a Carpenters' gauges. 280
b Gate hardware. 284
- 1398 Loweprant, P., Newark, N. J.—N 70. 280
a Mechanics' tools. 280
b Hardware. 284
- 1399 Hart, Bliven, & Mead Manufacturing Co., New York, N. Y.—P 70. 280
a Carpenters' tools. 280
b Carpenters', saddlers', and carriage hardware; gong door bells. 284
- 1400 Hotchkiss's Sons, Bridgeport, Conn.—N 72. 280
a Hand drills, saw sets, currycombs. 280
b Pruning shears. 281
c Harness snaps, bull rings. 284
- 1401 Beaver Falls Cutlery Co., Beaver Falls, Pa.—Table, pocket, and miscellaneous cutlery. Special exhibits, large carving knife and fork, nine and a half feet long, cost \$1500; revolving knife, with three hundred and sixty-five blades. N 70. 281
- 1402 Barney, E. H., Springfield, Mass.—Skates, perforating stamp, show case and counter combined. Barney & Berry's celebrated "Club All-clamp and Rink Skates," patented 1859, 1866, 1868, 1873. I show the advantage of a screw fastening for operating clamps on metal-topped skates; also, originality of the designs, fine quality, workmanship, and finish. P 68. 281
- 1403 Will & Finck, San Francisco, Cal.—California carving sets and cutlery, bar tools. P 71. 281
- 1404 Union Hardware Co., Wolcottville, Conn.—Skates, skate straps, tool handles, wood turning, dog collars, etc. N 69. 281
- 1405 Badger, Benj. F., Charlestown, Mass.—Razor straps. Leading styles, "Genuine Emersons," established 1810; "Souvenir," for presentation; "German Belt," with non-extensible base; "Badger's super-quality;" "Patent X;" "Square." N 72. 281
- 1406 Goldschmidt, Herrmann, New York, N. Y.—Razor straps. N 71. 281

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 24.

Hardware, Cutlery, Metallic Ornaments.

- 1407 Florence Sewing Machine Co., Florence, Mass.—Skates. N 71. 281
- 1408 Herder, L., & Son, Philadelphia, Pa.—Shears and scissors. N 69. 281
- 1409 Russell, John, Cutlery Co., Green River Works, New York, N. Y.—Table cutlery, butchers', hunters', painters', and druggists' knives, etc. N 67. 281
- 1410 Shipley, Howard W., Philadelphia, Pa.—Pocket cutlery. P 71. 281
- 1411 Seymour, Henry, & Co., New York, N. Y.—Tailors', bankers', and sheep shears, trimmers, and scissors. N 71. 281
- 1412 Evans, W. D., & Co., Philadelphia, Pa.—Razor strops and oilstone hone. N 72. 281
- 1413 Meriden Cutlery Co., New York, N. Y.—Table cutlery. N 69. 281
- 1414 Holley Manufacturing Co., Lakeville, Conn.—Pocket cutlery. P 71. 281
- 1415 Lamson & Goodnow Manufacturing Co., Shelburne Falls, Mass.—Table and butchers' cutlery. N 70. 281
- 1416 United States Steel Shear Co., West Meriden, Conn.—Solid cast steel scissors and shears. N 71. 281
- 1417 Miller Bro. Cutlery Co., West Meriden, Conn.—Pocket cutlery. N 70. 281
- 1418 Heinisch's, R., Sons, Newark, N. J.—Tailors' shears, scissors, and trimmings. N 69. 281
- 1419 Wiss, J., Newark, N. J.—Cutlery, shears, and scissors, hand and pole pruning shears. P 68. 281
- 1420 Plimpton, J. L., New York, N. Y.—Parlor skates. P 71. 281
- 1421 Friedman & Lauterjng, New York, N. Y.—Razors. P 70. 281
- 1422 Funke, Leopold, St. Louis, Mo.—Knife with three hundred and sixty-six blades. T 60. 281
- 1423 Robbins, Clark & Biddle, Philadelphia, Pa.—Cutlery. N 43. 281
- 1424 Gesswein & Reichhelm, New York, N. Y.—Polishing implements and materials. N 70. 281
- 1425 Northfield Knife Co., Northfield, Conn.—Pocket cutlery. N 71. 281
- 1426 Breeden & Nelke, New York, N. Y.—Spring scissors and shears. P 71. 281
- 1427 Goodell Company, Antrim, N. H.—Cutlery and shoe knives. N 71. 281
- 1428 Marx Bros., New York, N. Y.—Folding pocket scissors. N 69. 281
- 1429 Winslow, Samuel, Worcester, Mass.—Skates. H 71. 281
- 1430 Brady, Edward, Philadelphia, Pa.—U 63. 281
a Metal boot fastening. 281
b Model of iron fort. 283
- 1431 Willis, Aug. L., Philadelphia, Pa.—Ice creeper. H 71. 281
- 1432 Peck & Snyder, New York, N. Y.—Skates. H 71. 281
- 1433 New York Knife Co., Walden, N. Y.—Table, pen, and pocket cutlery. N 67. 281
- 1433*a* Louis, Julius, & Co., Jeffersonville, Ind.—Oilstones. N 68. 282
- 1434 Mitchell, J. E., Philadelphia, Pa.—Carpenters', engravers', opticians', and cutlers' grindstones; oilstones, razor hones, etc. P 67. 283
- 1434*a* Boyd & Chase, New York, N. Y.—Arkansas and Washita oilstone. N 69. 283
- 1434*b* Zucker & Levett, New York, N. Y.—Hard and soft rouge and composition for polishing metals. T 53. 289
- 1435 Baeder, Adamson, & Co., Philadelphia, Pa.—N 68. 289
a Sand and emery paper, emery cloth, emery, corundum, flint. 284
b Glue. 652
c Curled hair. 669
- 1435*a* Nittinger, Edward, Philadelphia, Pa.—Quartz paste for sharpening knives, etc. T 52. 282
- 1435*b* Tucker, Geo., New York, N. Y.—Polishing compositions. N 68. 282
- 1435*c* White, T. R., Philadelphia, Pa.—Sandilene, for cleaning marble, metal, glass, etc. T 54. 282
- 1436 Harrison, W. H., & Bros., Philadelphia, Pa.—Low and elevated fire grates, fenders, fireplaces, etc. T 52. 283
- 1436*a* Garland, Benj., Philadelphia, Pa.—Iron bridge and fence railings. Y 62. 283
- 1437 Dixon, Thos. S., & Sons, Philadelphia, Pa.—Grates, fenders, fireplace fittings, and gas logs. T 49. 283
- 1437*a* Manly, M. M., & Son, Philadelphia, Pa.—Wrought iron hand rails, mouldings, and bridge railings. T 60. 283
- 1438 Jackson, Wm. H., & Co., New York, N. Y.—Grates, fenders, fireplaces, fire irons, and fancy coal boxes. N 67. 283
- 1439 Lalance & Grosjean Manufacturing Co., New York, N. Y.—Stamped iron culinary ware. T 68. 283
- 1440 Reyburn, Hunter, & Co., Philadelphia, Pa.—Weather vanes. N 62. 283
- 1441 Tin Plate Decorating Co., New York, N. Y.—Decorated tin plates, boxes, cans, etc. N 70. 283
- 1442 Miller & Krips, 716 & 718 Cherry street, Philadelphia, Pa.—Plain and ornamental bronze; white bronze, brass, German silver, and zinc castings. Also, sole manufacturers of bronze reliefs in a new style of mounting; bronze reliefs made to order, from life or photograph. P 72. 283
- 1443 Demuth, Wm., & Co., 501 Broadway, New York, N. Y.—Show figures in metal and wood, meerscham and brier pipes, with rubber and amber mouthpieces; smokers' articles in general. P 69. 283
- 1444 Mott, J. L., Iron Works, New York, N. Y.—Fountains, vases, statuary, settees, aquaria, aquarium fountains, drinking fountains, candelabra, lamp pillars, crestings, castings, railings, gates, summer houses, band stands, stable fixtures, etc. N 54. 283
- 1445 Paxon, Comfort & Co., New York, N. Y.—Zinc monuments. T 64 and outside. 283
- 1446 Woods, Sherwood, & Co., Lowell, Mass.—White lustral wire ware, comprising an extensive line of household, table, and fancy goods, such as fruit, coal, and jewel baskets, tea and coffee strainers, castors, toilet articles, etc. N 72. 283

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Wrought and Cast Metal Work, Hardware.

- 1447 Ansonia Brass & Copper Co.,** Ansonia, Conn.—Brass and nickel-plated kettles. N 57. 283
- 1448 Rohrmann, J. Hall, & Son,** Philadelphia, Pa.—Tea, coffee, and spice caddies; water coolers and decorated japanned tinware. P 70. 283
- 1449 Hussey, C. G., & Co.,** Pittsburg, Pa.—Copper sheet, circle, and bottoms; planished and ingot copper, copper lighting rods, sheet brass, brass kettles. N 72. 283
- 1450 Champion Fence Co.,** Kenton, O.—Wrought and malleable iron fence and gate. The advantages claimed for the champion iron fence are: 1st—The longitudinal rail is rolled in T shape, thus giving the greatest lateral strength, also horizontal strength, when put up in fence, without bolts, rivets, or forging whatever, leaving the iron as it comes from the rolls. 2d—As the arched or cylindrical form of the iron resists the greatest strain, the pickets are rolled concave, convex, with a flange on each side, forming the strongest picket that can be made from the same amount of iron. 3d—The ornaments used, together with the different connecting parts, are made of refined malleable iron, or stamped from wrought iron plates, and of any desired form, and at one-tenth the cost of making them at the forge. 4th—The pickets are driven into the ornaments and passed to nearly the top of the picket, at the rear of the ornaments. There are lugs and clips, which are clinched, combining ornament and picket together, forming a strong and durable top-head for the picket. 5th—The fence is put together with clips; these are slipped on the T rail, and the sides of the ornaments form circles, or segments of circles, thus rendering them adjustable to any and all grades or angles. 6th—The panels are connected with a compound clamp, which holds them firmly together, at the same time allowing for the expansion and contraction of the iron. 7th—That we have in the combination of our rail and picket the strongest and most ornamental fence that can be made, from the same amount of material. 8th—That we can, by our adjustable posts, keep our fence in perfect line; also, that we can set the fence upon coping or stone walk of any grade, the same as upon our iron foundation. 9th—That we can pack the fence for shipment, in compact bundles, and put it upon the ground as conveniently as a wooden fence can be put up. 10th—That we manufacture the fence without the use of any costly and cumbersome machinery, being virtually made when the iron comes from the foundry and the rolls. 11th—The base upon which the fence is set is of cast iron, eighteen inches wide at the bottom, and six inches at the top, twenty-eight inches in length, which is set in the ground, upon this foundation is placed a wrought iron post, adjustable front and rear, and also adjustable at the top, while at the bottom it would be stationary, or *fixed*. Upon this post we also adjust the height of the fence. One of the beauties of our invention is, that we make a fence that looks light, yet strong and durable. *The Steel Building*. 283
- 1451 Bevin Bros. Manufacturing Co.,** East Hampton, Conn.—N 72. 283
4 Bel. men. kettles.
1 Sels. 284
- 1452 Armbruster, Jacob H.,** Philadelphia, Pa.—Organ and sash weights. (*Organ, East Gallery.*) 284
- 1453 Yale Lock Manufacturing Co.,** Stamford, Conn.—Locks, ornamental bronze hardware, post-office boxes. P 72. 284
- 1453a Bray, Edw. L.,** Boston, Mass.—Balance spring curtain fixture. (*East Gallery.*) 284
- 1454 Stewart & Mattson,** Philadelphia, Pa.—Building hardware, locks, door knobs and trimmings. N 69. 284
- 1454a Dexter Spring Co.,** Hulton, Pa.—Carriage springs. T 60. 284
- 1455 Nock, Geo. W.,** Philadelphia, Pa.—Locks and padlocks. N 70. 284
- 1455a Cleveland Steel Horseshoe Co.,** Cleveland, O.—Steel horseshoes and bars, hand shoe formers. T 59. 284
- 1456 Trenton Lock & Hardware Co.,** Philadelphia, Pa.—Patent lever and spring, with corrugated bolt door locks, latches, knobs, and other hardware. N 68. 284
- 1456a Adams, Wm. R. M.,** New York, N. Y.—Door bolt and chain check. N 72. 284
- 1457 Shannon, J. B.,** Philadelphia, Pa.—Hand-made locks and building hardware. N 72. 284
- 1457a Smith & Egge,** Bridgeport, Conn.—Padlocks, hasps, chains, etc. N 70. 284
- 1458 Wells & Hope Co.,** Philadelphia, Pa.—Metallic show cards and advertising signs; decorative glass printing, etc. P 72. 284
- 1458a Stafford Manufacturing Co.,** New York, N. Y.—Stencil combinations, machine cut alphabets and figures; key-rings, checks, and badges. N 69. 284
- 1459 Corbin, P. & F.,** New Britain, Conn.—House trimmings and miscellaneous hardware. N 72. 284
- 1459a Brooke, E. & G.,** Birdsboro', Pa.—Nails. T 67. 284
- 1460 American Stair-Rod Co.,** New York, N. Y.—Stair rods and stair carpet fasteners. N 71. 284
- 1461 Stanley Works,** New Britain, Conn.—Wrought iron butts, japanned, brazed, and plated; hinges, door bolts, etc. P 71. 284
- 1461a Orbeton, W. W. S.,** Boston, Mass.—Screw braces and screw-brace blind hinges. N 68. 284
- 1462 Globe Nail Co.,** Boston, Mass.—Machine-made horseshoe nails. N 71. 284
- 1463 Tuchfarber, F. & Co.,** Cincinnati, O.—Enameled iron show cards. P 72. 284
- 1464 Wiler, Wm.,** Philadelphia, Pa.—Stair rods and plates. N 71. 284
- 1465 Walton, E. S., & Co.,** Philadelphia, Pa.—Lock hardware and fine bronze work. N 72. 284
- 1467 Dunbar, Hobart, & Whidden,** South Abington, Mass.—Tacks, brads and nails, steel shanks, heel plates, etc. P 72. 284
- 1468 Hildebrand & Wolf,** Philadelphia, Pa.—Trunk locks, padlocks, dead-bolts, door springs, etc. P 69. 284

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 1

Hardware, Locks, etc.

- 1469 Carr, Crawley, & Devlin, Philadelphia, Pa.—Building, cabinet, carriage, and saddlery hardware; malleable iron, brass, and steel castings. N 70. 284
- 1470 Hall's Safe & Lock Co., Cincinnati, O.—Bank and time locks. H 67. 284
- 1471 Whitaker & Skirm, Trenton, N. J.—Iron chains, chute nails. T 65. 284
- 1472 Gould's, M., Sons, 83 & 85 Duane street, New York, N. Y., and 514 Commerce street, Philadelphia.—Stair rods, step plates, dog collars, upholstery, and trunk hardware. Manufacturers of stair rods, stair plates, dog collars, stepladders, trunk rivets, and all kinds of trunk hardware; also, a general line of upholstery hardware. Factory, Newark, N. J. N 71. 284
- 1473 Morton, Thos., New York, N. Y.—Sash chain and attachments for suspending windows, doors, etc. T 49. 284
- 1474 Mallory, Wheeler, Co., New Haven, Conn.—Door locks and knobs, padlocks, etc. N 69. 284
- 1475 Gaylord Manufacturing Co., Chicopee, Mass.—Cabinet locks. N 70. 284
- 1476 Union Manufacturing Co., New Britain, Conn.—Plain and ornamental butt hinges. N 69. 284
- 1477 Mersereau, W. T. & J., Newark, N. J.—Stair rods and plates, dog collars and muzzles, bridle fronts, and upholsterers' hardware. N 71. 284
- 1478 Marvin's Safe Co., New York, N. Y.—Locks. H 69. 284
- 1479 Bohannon, Wilson, Brooklyn, N. Y.—Brass spring padlocks and car locks. P 68. 284
- 1480 Union Steel Screw Co., Cleveland, O.—Bessemer steel wood screws, with samples showing stages of manufacture. T 59. 284
- 1481 Clark & Co., Buffalo, N. Y.—Nickel-plated builders' hardware. N 71. 284
- 1482 Van Wagoner & Williams, 82 Beekman street, New York, N. Y.—Spring hinges and door springs of the leading kinds, for screen and other doors, gates, etc. All articles of superior manufacture. N 70. 284
- 1483 Gong Bell Manufacturing Co., East Hampton, Conn.—Bells. P 72. 284
- 1484 Romer & Co., Newark, N. J.—Locks for railroad switches, cars, prisons, stores, etc. N 71. 284
- 1485 Cowell, J. J., & Co., Newark, N. J.—Builders' and trunk hardware. Manufacturers of trunk and builders' hardware, sash pulleys, trunk rollers, catches, handle caps, stay hinges, clamps, etc. Also malleable and gray iron small castings. N 71. 284
- 1486 Middletown Tool Co., Middletown, Conn.—Plane irons, harness snaps, washer cutters, hitching chains, plane-makers' hardware, etc. P 71. 284
- 1487 Whipple, H. J. P., West Meriden, Conn.—Door-knob attachment. P 68. 284
- 1488 McEachern, Daniel, Wilmington, Del.—Cast iron Centennial chain, each link representing a State and giving the Governor's name. Q 78. 284
- 1490 Tiebout, W. & J., New York, N. Y.—Brass, galvanized, and ship chandlery hardware. H 68. 284
- 1491 Parker & Whipple Co., West Meriden, Conn.—Door-knob attachment and adjustment. N 69. 284
- 1492 Thorn, Stephen S., 39 Oliver street, Newark, N. J.—Brass, copper, and iron wire ferrules, from $\frac{3}{8}$ to $3\frac{1}{2}$ inches, for paint brushes—these ferrules warranted not to burst or expand; bonnet and insulating wire. N 69. 284
- 1493 Worrell Bank Lock Manufacturing Co., Philadelphia, Pa.—Bank lock. H 70. 284
- 1496 Herring & Co., New York, N. Y.—Safe, bank, and time locks. H 69. 284
- 1497 Neuman, R., & Co., Newark, N. J.—Satchel and traveling bag frames, and bag trimmings. P 68. 284
- 1498 Van Alen & Co., Northumberland, Pa.—Cut nails and spikes. T 66. 284
- 1499 Blake Bros. Hardware Co., New Haven, Conn.—Hardware for builders', cabinet makers', and carriage makers' use. P 69. 284
- 1500 Miller, D. K., Lock Co., Philadelphia, Pa.—Locks. P 70. 284
- 1501 Eagle Lock Co., Terryville, Conn.—Trunk and cabinet locks. H 67. 284
- 1502 Judd, Hubert L., New York, N. Y.—Upholstery and fancy hardware. N 69. 284
- 1503 Coleman Eagle Bolt Works, Philadelphia, Pa.—Carriage bolts, nuts, and axle clips. P 71. 284
- 1504 Meeker, D. M., & Son, Newark, N. J.—Iron, bronze, and German silver castings. N 71. 284
- 1505 Hall, P. W., Austin, Texas.—Combination door, drawer, and trunk locks. P 68. 284
- 1506 Norwalk Lock Co., South Norwalk, Conn.—Door locks, knobs, padlocks, and builders' hardware. N 70. 284
- 1507 Terwilliger & Co., New York, N. Y.—Safe locks. H 72. 284
- 1508 Arms, Bell & Co., Youngstown, O.—Nuts, bolts, and washers. V 63. 284
- 1509 Wheeling Hinge Co., Wheeling, W. Va.—Hinges, butts, wrought goods, and washers. N 68. 284
- 1511 Vanduzen & Tift, Cincinnati, O.—Bells. T 53. 284
- 1512 American Screw Co., Providence, R. I.—Gimlet pointed screws of iron, brass, and steel; coach, hand rail, and chine screws; rivets; stove and tire bolts. P 69. 284
- 1513 Branford Lock Works, New York, N. Y.—Rim and mortise door locks and latches, brass and steel keys, door knobs, lock furniture. P 69. 284
- 1514 Easton Lock Works, Easton, Pa.—Rim and mortise locks and latches; safety locks and night latches. N 72. 284
- 1515 Wilson, John, Chicago, Ill.—Fire nozzle. B 69. 284
- 1515a Keystone Hardware Manufacturing Co., Reading, Pa.—Hardware. N 69. 284
- 1516 Quigley, W. E., Waterbury, P.—Hand-made horseshoes. T 71. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27

ESTABLISHED 1841.

HERRING'S SAFES.

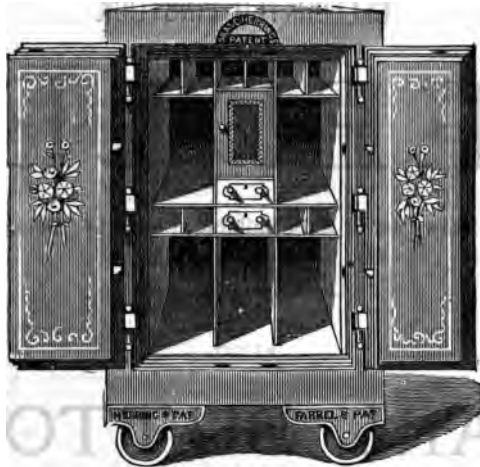
AWARDED HERRING'S SAFES.



WORLD'S FAIR, LONDON.



EXPOSITION UNIVERSELLE, PARIS.



"FIRE TRIED, TIME PROVEN."

HERRING'S BANKERS' SAFES.

Security against the powerful tools and ingenious devices
of the scientific Burglar.

Herring's Infallible Bank Lock

Affords the security of both a Combination and Time Lock,
INSURING PROTECTION AGAINST MASKED BURGLARS

MANUFACTURED BY

HERRING & CO.,

251 & 252 BROADWAY, NEW YORK,

56-60 SUDBURY ST., BOSTON

E. C. PRATT, BRO. & CO.,

29 MERCER ST.,

NEW YORK.

SOLE AGENTS FOR

JOHN ENGLISH & CO.'S

CELEBRATED PINSTUCK

NEEDLES

See Show Case in Main Building, Class 254, Siding 4.

ALSO,

PEARL BUTTONS,

ON PATENT CARDS, MOUNTED IN SQUARES
OF ONE DOZEN EACH.

FISH LINES,

FISH HOOKS,

SMALL WARES,

ETC., ETC.

Paper, Wooden, Metallic Fabrics, etc.

- 1562 Piton, Camille, Philadelphia, Pa.**
—Trophies representing America, Europe, Asia, and Africa. (*Nave and Centre Transept.*) 288
- 1563 Tremain, Chas., Manlius, N. Y.**—Paper barrels; cheese and fruit packages. T 57. 289
- 1564 Trasel, Edward G., New York, N. Y.**—Papier maché household ware, chamber sets, pails, cuspadors, etc. P 64. 289
- 1565 Wakefield Rattan Co., Boston, Mass.**—Rattan baskets. T 57. 289
- 1566 Beaudett, Homer J., Greenpoint, N. Y.**—Fancy scroll work. P 50. 289
- 1567 Waters, E., & Sons, Troy, N. Y.**—Boat barrels, camp stools, seats, packages for volatile liquids, etc., made of paper. B 73. 289
- 1568 Jennings Brothers, 352 Pearl street, New York, N. Y.**—Japanese paper ware. Their manufacture of pails, basins, pitchers, spittoons, cuspadors, etc., are thoroughly waterproof, durable, and ornamental; are not affected by the climate. T 68. 289
- 1569 Preston & Merrill, Boston, Mass.**—Wooden boxes. P 48. 289
- 1570 Dorman Manufacturing Co., New York, N. Y.**—Baskets, urns, carriage bodies, etc. P 59. 289
- 1571 Paxon, Comfort, & Co., Philadelphia, Pa.**—Burial robes and dresses; casket trimmings. B 73 and outside. 290
- 1572 Smith, Wm. M., West Meriden, Conn.**—Casket trimmings, handles, name plates, and ornaments. N 43. 290
- 1573 Rogers, C., & Bros., West Meriden, Conn.**—Gold and silver plated coffin and casket trimmings. F 72. 290
- 1574 Chase, F. & P. F., Penn Galvanic Works, Philadelphia, Pa.**—Galvanized iron goods, sheet iron, water pipe, boilers, hardware, shipsmithing, railings; bar, hoop, and chain iron. P 68. 291
- 1574a Danby, Geo., & Co., Philadelphia, Pa.**—Galvanized sheet iron, mantels, cornices, railings, etc. Y 59. 291
- 1575 Straus, J. E., & Co., Philadelphia, Pa.**—Galvanized, wrought, and cast iron work. P 71. 291
- 1577 Philadelphia Galvanizing Co., Philadelphia, Pa.**—Galvanized sheet iron pipe, railing, wirework, chairs, boilers, sinks, coal hods, etc. P 69. 291
- 1578 Kittredge Cornice & Ornament Co., Salem, O.**—Sheet metal cornices, doors, shutters, and pavilion; architectural ornaments, light wrought iron work. (*Outside.*) 291
- 1579 Falstrom & Tomqvist, Passaic City, N. J.**—Galvanized iron cornice and ornamental sheet iron work for buildings. P 68. 291
- 1580 Philadelphia Architectural Iron Co., Philadelphia, Pa.**—Galvanized iron and sheet zinc gate entrance. P 70. 291
- 1581 McCullough Iron Co., Philadelphia, Pa.**—Galvanized sheet iron. P 70. 291
- 1582 Brown & Owen, Philadelphia, Pa.**—Cemetery inclosure, ornamental iron work, and wrought iron pipe. (*Outside.*) 291
- 1583 Cornell, J. B. & J. M., 141 Centre street, New York, 9 Studio Buildings, Boston, 427 Walnut street, Philadelphia.**—All kinds of heavy and light wrought and cast iron work for buildings and bridges; cast iron fronts, stairs, columns, girders, lamp posts, etc.; wrought iron columns, girders, beams, railings, sheet lath, etc.; steel and iron rolling shutters, fire-proof columns, burglar proof safes and vaults. Works cover six acres of ground. P 70. 291
- 1584 Marshall Brothers & Co., Philadelphia, Pa.**—Galvanized and leaded sheet iron work. P 71 and outside. 291
- 1585 Zinc Roofing & Ornamenting Works, Chicago, Ill.**—Ornaments in pressed and cast zinc, brass, and copper; zinc statues, emblematic signs, etc. P 69. 291
- 1586 Burlinger Brothers, Dayton, O.**—Ohio coat-of-arms of galvanized iron. (*In gable of Ohio State Building.*) 291
- 1586a Smith, S. A., New York, N. Y.**—Rolling chairs. (*In use in the buildings.*) 292

Carriages, Vehicles, and Accessories.

- 1587 Blake Bros. Hardware Co., New Haven, Conn.**—Trucks for moving open barrels and kegs. P 69. 294
- 1588 Newichawanick Co., South Berwick, Me.**—Horse blankets and goods for horse clothing. R 78. 296
- 1588a Hopkins & Robinson Manufacturing Co., Akron, O.**—Animal pokes. 296
- 1589 Pettingell & Sawyer, East Cambridge, Mass.**—Horse and wagon covers. F 76. 296
- 1590 Eager, P. B., Tower, & Co., Boston, Mass.**—Oiled horse covers. C 78. 296
- 1592 Faxon, E., & Co., Philadelphia, Pa.**—Wool extract. P 43. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-46.

GREAT BRITAIN.

(North of Nave, Columns 23 to 38.)

Chemical Manufactures.

Chemical Manufactures.

- 1 Hutchinson, John, & Co., Widnes, Lancashire.—Soda ash, soda crystals, caustic soda, bicarbonate of soda, salt cake, bleaching powder, and sulphur recovered from vat waste. 200
- 2 Corbett, John, Stoke Prior Salt Works, Worcestershire.—Refined salt. 200
- 3 Richards, Kearne, & Gasquoine, Mal-kins Bank Alkali Works, Sandbach, Cheshire.—Brine, sulphate of ammonia, soda ash, bicarbonate of soda. 200
- 4 Gaskell, Deacon, & Co., Widnes, Lancashire.—Carbonated soda ash, and refined alkali, bleaching powder, soda crystals, bicarbonate of soda, and chloride of calcium. 200
- 5 Brunner, Mond, & Co., North-wich, Cheshire.—Alkali or carbonate of soda. 200
- 6 The Desoto Alkali Co. limited, Widnes, Lancashire.—Caustic soda, and black ash or ball soda. 200
- 8 Runcorn Soap & Alkali Co. (limited), Liverpool.—Bleaching powder, soda ash, crystals of soda, caustic soda, and refined resin. 200
- 9 Muspratt Bros. & Huntley, Liver-pool.—Soda ash, caustic soda, bleaching powder, soda crystals, and bicarbonate of soda. 200
- 10 Muspratt, James, & Sons, Liver-pool.—Soda ash, cream caustic soda, bleaching powder, chlorate of potash, salt cake, and bromine. 200
- 12 Spence, Peter, Manchester.—Crystallized alum, in bulk and crystals, and a new ammoniacal compound for pre-purifying sewage and for paper making. 200
- 13 Huggin, Thomas, & Co., Liverpool.—Soda ash. 200
- 14 The Newcastle Chemical Works Co. limited, Newcastle-on-Tyne.—Soda ash, caustic soda, bicarbonate of soda, salt cake, and sulphur. 200
- 15 White, John, & James, Shawfield Works, Glasgow, Renfrewshire.—Soda ash. 200
- 16 Lever Alkali Works Co. limited, Liverpool.—Soda ash, caustic soda, bleaching powder, and sulphur. 200
- 17 Young, James, Kelly, Wemyss Bay, N. B.—Illustrations of manufacture of carbonate of soda, chlorate of potash, products from petroleum, coal, and shale, preservation of iron ships. 200
- 18 Greenbank Alkali Co., St. Helen's, Lancashire.—Chemical products, pure caustic soda, chlorate of potash. 200
- 20 Jennings, T., Brookfield Chemical Works, Cork.—Carbonate of and calcined magnesia. 230
- 21 Calvert, F. C., & Co., Bradford, Manchester.
 - a Carbolic and cresylic acids and deriva-tives. 200
 - b Carbolic acid soaps. 201
- 22 Parkinson Bros., Burnley.—Baking-powder. 230
- 23 Morson & Son, London.—General chemicals and specialties, creasote, pep-sine, gelatine, etc. 230
- 24 Allen & Hanburys, London.—Paté de jujube and analogous articles. 200
- 25 Gerrard, Alfred William, London.—Pharmaceutical preparations. 200
- 26 Chance Bros., Alkali Works, near Birmingham.—Chemical products. 200
- 27 Wyndham, F., & Co., London.—"Esprit des Œufs" (spirit of eggs), a medicinal compound. 200
- 28 Price's Patent Candle Co. (limited), Belmont Works, London.—Candles, night-lights, glycerine, fatty acids, machinery oils; toilet, household, and mill soaps, glycerine, paraffine, stearine, and tapers. 201
- 29 Field, J. C. & J., London.—Candles, toilet soaps, beeswax, and refined yellow wax, white wax, dyers' soaps, sealing wax, and fancy ornamental candles. 201
- 30 Pears, A. & F., Landron Soap Works, Isleworth, near London.—Trans-parent soap. 201
- 31 Wright & Holdsworth, London.—Toilet soap, warm powders, Bauer's baby soap. 201
- 32 Cohen, Sigismund, London.—Chem-ical and medical soaps. 201
- 33 Craig & Ross, Calcuttan Oil & Soap Works, Edinburgh.
 - a Soap and alkali. 201
 - b Soap and alkali. 201

For a list of the names of the manufacturers of the various articles, see Classification, pp. 17-45.

BRITISH ADVERTISEMENTS.

PRIZE MEDAL,



LONDON, 1862.

BARLOW & JONES,
LIMITED,

*Spinners, Printers & Manufacturers
by Power,*

SILVER MEDAL,



PARIS, 1867.

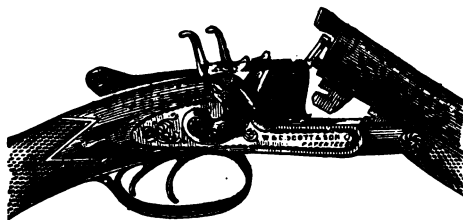
**TOILET AND MARSEILLES QUILTS,
COUNTERPANES, ALHAMBRA'S, SHEETS,
SHEETINGS, COTTON BLANKETS, TOWELS TOILET COVERS & MATS,
SKIRTS, QUILTINGS,
WHITE AND PRINTED DAMASKS, PLAIN AND FANCY MUSLINS, &c.
2, Portland Street, Manchester, England.**

American Agent—Mr. D. A. LINDSAY, No. 54, Howard Street, New York.

W. & C. SCOTT & SON | **Winners of the International Gun
Trial, NEW YORK, 1873, for Points
of Merit of Shooting Qualities, System of Action, Workmanship, &c., &c.**

PATENTEES & MANUFACTURERS OF GUNS & RIFLES for

India,
China,
Ceylon,
Australia,
Cape,



**Canada and
the United
States.**

**London Address,
10,
ST. CASTLE ST.,
REGENT CIRCUS.**

PREMIER GUN WORKS, BIRMINGHAM, ENGLAND.

**W. W. GREENER'S
PATENT TREBLE WEDGE-FAST BREECHLOADER,**

THE WINNING GUN at the great London Gun Trials, in all the classes, for
improved boring. Will kill game at over 100 yards.

The strongest and most
durable breech action ever
invented,
and the easiest to load.



On Sale at
Messrs. Grubb & Co.'s
Philadelphia.

In the Press, "CHOKE-BORE GUNS, AND HOW TO LOAD FOR ALL KINDS OF GAME." By W. W. Greener, Author of "Modern Breechloaders."

ST. MARY'S WORKS, BIRMINGHAM.

**DAVID SMITH & CO., LIMITED, Wool Extractors, HALIFAX, and the
MILL HILL WOOL & RAG EXTRACTING COMPANY, LIMITED, HUDDERSFIELD,
WHOSE INTERESTS ARE AMALGAMATED.**

EXTRACTED WOOLS.

Neither bugs, lice, fleas, moths nor vermin will live in cloths, blankets or rugs made of these Wools; nor will they lodge in any bed, bedding or stuffings made therewith. On account of their chemical properties and the manner in which they are manipulated, goods manufactured with these Wools are not subject to mildew. Contracts may be entered into for regular supplies of them. Samples supplied.



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Gun and Rifle Manufacturer,

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BRITISH ADVERTISEMENTS.

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CELEBRATED

EXTRA FOREIGN STOUT

AND

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the Exhibition Buildings,
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London, 1874.

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WEST BROMWICH, Staffordshire,

MANUFACTURER OF

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AND EVERY VARIETY OF

TERRA METALLIC IMPERISHABLE PAVINGS,

&c., &c.

PRICES AND BOOKS OF ILLUSTRATIONS ON APPLICATION.



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London 1874.



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BELFAST, IRELAND,

INVENTORS AND SOLE MAKERS OF THE

CELEBRATED "ULSTER" COAT.

See SHOW CASE, Class 250. E 27.

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MANUFACTURERS OF

NEEDLES, SEWING MACHINE NEEDLES,

FISH HOOKS AND FISHING TACKLE,

ABBEY MILLS, REDDITCH, ENGLAND.

Prize Medals—London, Paris, Berlin, Boulogne, & Bergen.

Chemicals, Ceramics.

- 34 Williams, Miles, Britannia Varnish Works, Wigan, Lancashire.**
 a Gas carburetter and drawings; improvement in manufacture of gas and liquid fuel. 201
 b Varnishes, varnish paints, enamels, lacquers, and specimens of work. 202
- 35 Hickisson, Mrs. M. A., London.**—Marking ink, pens, linen stretcher, and framed specimens. 202
- 36 Turner, Chas., & Son, London.**—Varnishes, fine colors, gums. 202
- 38 Lyons, William, Manchester.**—Writing and copying fluids and inks, marking ink, ink powders, paper dye tablets. 202
- 39 Bowman, Charles, London.**—Solid ink, stencil plates, stencil brushes, etc. 202
- 40 Rawlins & Son, Brook Works, Prescott.**—Ultramarine and smalts, with raw materials. 202
- 41 Chambers, T. F., Hull.**—Black varnish. 202
- 42 Johnson Bros., Hull.**—Colors, varnishes, machinery oils, and locomotive and anti-friction greases. 202
- 44 Rowney, George, & Co., London.**—Pigments, colors, varnishes, artists' materials. 202
- 45 Storer, David, & Sons, Glasgow.**—Colors, pigments, and wood stains; Venetian, Indian, and other reds; drop black, greens, and other pigment colors. 202
- 46 Cooper & Co., London.**—Writing, register, and japan inks, copying and fluid ink; red, scarlet, blue, and violet inks. 202
- 47 Silicate Paint Co., Liverpool.**—Silicate paints and colors; petrifying liquid for damp walls; enameling and anti-fouling paints; cement for steam joints, anti-incrustation fluid, nitre killer, etc. 202
- 47a Young & Strang, Glasgow.**—Gums for calico printing. 202
- 48 Blackwood, John, & Co., London.**—Writing, copying, and indelible marking inks. 202
- 49 Mackay, John, Edinburgh.**
 a Spirit varnishes and polishes for coating wood of all colors, white, mahogany, oak, or ebony. 202
 b Fluid flavoring essences from spices, fruits, and vegetables. 203
- 50 Stephens, Henry Charles, London.**—Writing fluids and copying inks, ink powders, machine ruling and indorsing inks; stains for wood. 202
- 51 Crown Perfumery Co., London.**—Perfumes and toilet requisites. 203
- 52 Brooks, Henry, & Co., London.**—Perfumery. 203
- 53 Atkinson, J. & E., London.**—Perfumery and toilet articles. 203
- 54 Jaap, John, Glasgow.**—Flavoring essences and other preparations. 203
- 55 Low, Son, & Haydon, London.**—Perfume extracts, toilet soaps. 203
- 56 Perks, Samuel, Hitchin Herts.**—Essential oil of lavender, extract lavender flowers, etc. 203
- 57 Thiellay, Eugene Henry, London.**—Hair tincture, dyes, and bleaching liquid, tonics, and cultivators. 203
- 58 Rimmel, Eugene, London.**—Perfumery and toilet articles; perfume vaporizers, etc. 203
- 59 Evans, Sons, & Co., Liverpool, and Evans, Lescher, & Evans, London.**—Perfumery. 203
- 59a Sturge's Montserrat Co. (limited), Broad street, Birmingham.**—Essences. 203
- 60 Bryant & May, Fairfield Works, London.**—Safety matches, wax vestas and vesuvians, decorated metal and other boxes. 204
- 62 Bickford, Smith, & Co., Tuckingmill, Cornwall.**—Safety fuses for blasting operations. 204
- 63 Pigou, Wilks, & Laurence (limited), London.**—Military, sporting, African, and mining powders of every description. 204
- 64 Lacey, Richard George, Coast Guard Station, Leigh, Essex.**—Rocket apparatus for throwing lines from one ship to another. 205
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 65 Peake, Thomas, The Tileries, Tunstall, Staffordshire.**
 a Paving and facing bricks. 206
 b Ridge, roofing, and flooring tiles; ornamental tiles for garden borders, skirtings, and mural decorations. 208
- 66 Hamblet, Joseph, Piercy Blue Brick Works, West Bromwich, Staffordshire.**
 a Vitrified blue bricks, copings, plinths, stable floor bricks, and quarries. 206
 b Ridges, roofing tiles, and terra metallic pavings. 208
- 67 Wood & Ivory, Albion Brick Works, West Bromwich, Staffordshire.**—Blue terra metallic building and fancy bricks; mouldings, copings, footpath paving bricks, grooved stable floor bricks, terminals; terra metallic vases, trusses, etc. 206
- 68 Johnson & Co., Ditchling Potteries, Sussex.**—Terra-cotta as applied to building purposes; terminals, vases, ridge tiles, and general terra-cotta work. (*Agricultural Hall.*) 206
- 69 Matthews, John, Royal Pottery, Weston-super-Mare, Somerset.**—Terra-cotta vases, fountains, and basins; garden pottery, etc. 206
- 70 Watcombe Terra-Cotta Co. (limited), Watcombe, South Devon.**—Terra-cotta, painted vases and plaques, statuettes, etc.; frescoes for mural adornment, and architectural terra-cotta specimens. 206
- 71 Brooke, Edward, & Sons, Fieldhouse Fire Clay Works, Huddersfield, Yorkshire.**
 a Sanitary tubes. 206
 b Fire bricks and clay for furnaces; silica ventilators; silica fire bricks for furnaces. 206

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Ceramics.

- 72 Stiff, James, & Sons, London.**
a Terra-cotta jars, bottles, tiles, vases, medallions, water filters, refrigerators, air bricks, stoves, and stove linings, tablets with figures in bas-relief, figures for church and other decorations; sanitary ware, sewer traps, drain pipes, etc. 206
b Terra-cotta stoves and stove hinges. 207
c Tiles. 208
d Chemical stoneware, water filters, refrigerators, etc. 210
- 73 Jennings, George, London.**—Appliances for ventilation, terra-cotta bricks, etc.; stoneware drain pipes, gully traps. 206
- 74 Holland, William Thomas, Yrismudw, South Wales.**
a Architectural terra-cotta, bricks and tiles, sanitary pipes and ware. 206
b Fire bricks and fireproof cements. 207
c Ceramic goods, earthenware, or faience, in table, tea and toilet services, etc. 213
- 75 Lindsay & Anderson, Lilliehill Fire Clay & Terra-Cotta Works, Dunfermline, Scotland.**
a Fountain in terra-cotta, bust and pedestal of Sir Walter Scott, statuette of Sir James Y. Simpson, nymphs at fountain, garden vases and pedestals, sewage pipes and sanitary appliances, collection of terra-cotta. 206
b Gas stove in terra-cotta, fire-clay bricks, chimney cans. 207
- 76 Doulton, Hy., & Co., London.**—Terra-cotta goods for architectural purposes; sanitary pottery in salt-glazed stoneware, queensware; vitrified metallic bricks and pavings. 206
- 76a Eastwood & Co., (limited), London.**
a Building, paving, ornamental, and fire bricks; Staffordshire blue bricks, grooved paviers. 206
b Red paving and roofing tiles; ridges and clinkers. 208
- 77 Brownhills Pottery Co., Tunstall.**
a Terra-cotta and black glazed ware. 206
b Floor and roof tiles, ridge ornaments, etc. 208
c Jugs. 210
d Earthenware dinner, dessert, and toilet ware. 213
- 78 Dean, Henry, Rugby, Warwickshire.**—Stoneware drain traps and yard gullies of different patterns. 206
- 78a Maw & Co., Benthall Works, Broseley, Shropshire.**
a Architectural majolica, and terra-cotta. 206
b Geometrical mosaics, encaustic, and majolica tiles. 208
- 79 Tinworth, George, London.**—Panels in terra-cotta, illustrative of Scripture, and articles in colored stoneware. 206
- 79a Daniell, A. B., & Son, London.**
a Porcelain and pottery, ornamental vases, candelabra, etc.; fountains, jardinières, garden seats, vases, etc. 206
b Dinner, dessert, tea, and coffee services; toilet services. 213
- 80 Harper & Moores, Stourbridge.**—Fire clays, prepared clays, fire bricks, crucibles, melting pots, bricks for smelting furnaces, etc. 207
- 81 Cliff, John, Runcorn, near Liverpool.**—Fire brick. 207
- 82 Patent Plumbage Crucible Co., Battersea Works, London.**—Portable furnaces; skittle pots for glass melting; crucibles for jewelers, assayers, dentists, etc.; founders' blacking. 207
- 83 Price, J. & C., & Bros., Bristol.**—Ale bottles, spirit jars, barrels, preserve jars, water filters, feet warmers, etc.; stoneware. 207
- 84 Bates, Walker, & Co., Dale Hall Works, Burslem.**
a Ironmongers', artists', and gardenware; earthenware goods; signboard letters. 209
b Spirit barrels. 210
c Dinner, dessert, toilet, and tea ware; porcelain slates, menu tablets, etc. 213
- 85 Doulton & Co., London.**—Man-tepieces, stoves, hearth, and fenders of clay; crucibles, furnaces, muffles, in fire clay and plumbago. 207
- 86 King Bros., Stourbridge.**—Fire brick, gas retorts, etc. 207
- 88 Davidson, T., jr., & Co., Caledonian Pipe Works, Glasgow.**—Clay tobacco pipes; white clay pipes, fitted with fancy mouthpieces and cases. 207
- 88a Doulton & Watts, Lambeth Pottery, London.**
a Stoneware for chemical works. 207
b Tile decorations. 208
c Stoneware for manufacturing purposes; pulpit and font in fine art pottery faience. 209
d Stoneware for domestic purposes. 210
- 89 The Campbell Brick & Tile Co., Stoke-upon-Trent.**—Encaustic, geometric, majolica, and all kinds of glazed tiles and mosaics, bricks, and roofings. 208
- 90 Craven, Dunill, & Co., Jackfield Works, near Ironbridge, Shropshire.**—Tiles for pavements and hearths; ornamental splay for fireplaces; tiles for walls and furniture. 208
- 91 Minton, Hollins, & Co., Minton's China Works, Stoke on Trent.**—Tiles, tile-mosaic, tile fender, chimney piece, fire grate, flower vases, etc. 208
- 92 Stanley Bros., Midland Tile Works, Nuneaton, Warwickshire.**—Perforated tiles for malt kiln floors. 208
- 93 Brown-Westhead, T. C., Moore, & Co., Caudon Place, Staffordshire Potteries.**
a Tiles and sanitary ware. 206
b China, earthenware, statuary, porcelain, and majolica ware. 209
c Druggists' and perfumers' goods. 213
d Dinner, dessert, and toilet services. 213
- 93a Matthews, Edward, & Son, London.**—Decorative tiles. 208
- 93b Minton China Works, Stoke upon Trent.**—Enameled tiles, etc. 208
- 93c Colthurst, Symons & Co., Bridge-water.**—Bricks and tiles. (*In Agricultural Hall.*) 208
- 94 Brownfield, Wm., & Son, Cobridge, Staffordshire Potteries.**—China, majolica, ironstone china, parian, earthenware, stoneware, etc. 210
- 95 Edwards, J., & Son, Burslem, Staffordshire.**—Ironstone whiteware. (*In Agricultural Hall.*) 210

For classes of exhibits; indicated by numbers at end of entries, see Classification, pp. 27-28.

CANTRELL & COCHRANE'S & GINGER ALE &



Works DUBLIN Thelass.



Works BELFAST Green Building

IRELAND.

MINERAL-WATER-MANUFACTORIES

FIVE PRIZES, PARIS EXHIBITION, 1867.

CAUTION.

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This cheap and excellent Sauce makes the plainest viands palatable, and the daintiest dishes more delicious. To Chops and Steaks, Fish, &c., it is incomparable. Sold by Grocers, Oilmen, Chemists, &c., in Bottles, 6d., 1s., and 2s. each.

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Manufacturers, GOODALL, BACKHOUSE & CO., LEEDS.



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Havre, 1868; Beauvais, 1869; Marseilles, 1874;
Paris, 1875;

AND SEVERAL HONOURABLE MENTIONS.



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And 23 & 23 1/2, BILLITER STREET, CITY, LONDON, ENGLAND.

Sole Makers and Patentees for the U.S. of America of

ANDERSON'S PREPARED ROOFING FELT,
Ready Coated and Sanded, especially for HOT CLIMATES.

BLOOD, WOLFE & CO.'S

XXX DUBLIN STOUT

AND

PALE ALES,

LIVERPOOL AND LONDON, ENGLAND.

Agents in all principal cities in the United States.



Ceramics, Furniture.

- 96^a Gardner, Peter, Dunmore Pottery, by Stirling, Scotland.—Rockingham teapots. 210
- 97 Edwards, John, Fenton, Staffordshire.—Ironstone china and porcelain de terre tea, dinner, toilet, and jug services. (*In Agricultural Hall*.) 213
- 98 Bailey, W. & J. A., Alloa, Scotland.—Rockingham earthenware teapots. 213
- 98^a Powell & Bishop, Hanley, Staffordshire.—Dinner, dessert, tea, and toilet services, white granite, etc. 213
- 99 Hetley, J. & Co., London.—Glass shades; glass used for photographic, building, and horticultural purposes. 214
- 100 Chance Bros., & Co., Glass Works, near Birmingham.—Glass for optical instruments. 214
- 101 Kilner Bros., London.—Glass bottles and glass, for useful and scientific applications. 215
- 107 Aire & Calder Glass Bottle Co., London.—Glass bottles, combination stoppers, packing cases, corks, straw envelopes. 215
- 108 Green, James, & Nephew, Thames Cut Glass Works, London.—Table glass, cut and engraved table decorations and flower stands, glass chandeliers, and lustre candlesticks. 216
- 109 Millar, John, & Co., Edinburgh.—Engraved and cut glass. 216
- 109^a Jenkinson, Alexander, Edinburgh.—Venetian glass in antique shapes. 216
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 110 Cox & Sons, London.—Chimney piece, embroidered mantel board, ebonized corner cupboard, carved oak furniture, bronze ornament, stained glass church window, wrought iron pulpit body, lecterns, church plate, wrought iron and brass work, art tiles and plaques; the challenge prize of the National Musical Union, etc. 217
- 110^a Turner, George, & Co., London.
^a Hammock bedstead and sofa, mosquito curtains. 217
^b Camp oven. 222
- 111 Wright & Mansfield, London.—Cabinet furniture of the 18th century. 217
- 112 Hems, Harry, Exeter.—Alabaster statue; carved oak chest made out of ancient beams (nearly 600 years old) from the choir of Salisbury cathedral. 217
- 113 Peyton & Peyton, Bordesley Works, Birmingham.—Metallic bedsteads. 217
- 114 Morton, W. Scott, & Co., Art Furniture Works, Edinburgh.—Decorative furniture, ebonized and decorated cabinet, sideboard. 217
- 115 Hart, Son, Peard, & Co., London.
^a Artistic metal work (chiefly for ecclesiastical purposes), stove grates, etc. 217
^b Stove grates, etc. 222
^c Gas fixtures. 223
- 116 Shoolbred, James, & Co., London.—Furniture in the Jacobean and Queen Anne styles; bedroom furniture in the Anglo-Indian style; curtains and carpets. 217
- 116^a White, William George, London.—Steel safe. 217
- 117 Barnard, Bradley, London.—Furniture and hammock. 217
- 118 Cooper & Holt, London.—Furniture, sideboard, portion of bedroom suite, decorative drawing-room furniture. 217
- 119 Phipson, Miss Emma, Monk Sherborne, Basingstoke, Hants.—Sideboard, ladies' work table, dressing glass, and candlesticks. 217
- 119^a Chatwood, Samuel, London.—Fire and burglar proof safes. 217
- 120 Ward & Co., London.—Bear arranged as dumb waiter to hold tray and lamp. 217
- 122 Arthur, Frederick, London.—Cabinet work and fittings for Royal School of Art needlework exhibits. 217
- 123 Wethered, Edwin Robert, Woolwich, Kent.
^a Hammock. 217
^b Friction pulley block, exhibited as a fire-escape. 227
- 124 Matthews, Edward, & Son, London.—Stained glass windows, mural brasses. 217
- 125 Barnard, Bishop, & Barnards, Norfolk Iron Works, Norwich.
^a Stoves. 222
^b Mangles. 225
^c Ornamental wrought and cast iron gates, palisade, pavilions, etc. 719
^d Lawn mowers, hose reels, garden rollers, and iron garden requisites. 720
- 125^a Howard & Sons, London.—Household furniture. 217
- 126 Singer, J. W., & Son, Frome, Somerset.—Artistic metal work, altar crosses and candlesticks, alms dishes, and mural brass plates for churches. 217
- 126^a Sage, Frederick, London.—Air-tight show cases, velvet show stand, etc. 217
- 127 Knight, Miss Mary, London.—Bedstead. 217
- 128 Jeffreys, Charles, London.
^a Show cases, bronzed shop fittings, and show stands. 217
^b Cut glass mirrors. 219
^c Reflecting lamps. 223
- 129 Royal School of Art Needlework, London.—Artistic needlework and embroidery in applique, crewels, and silk. 217
- 130 Macintosh, James, London.—Decorative doors and panels; imitations of woods and marbles, decorative designs and paper-hanging. 217
- 130^a Collmann, L. W., London.—Piano in carved satinwood case, etc. 217
- 130^b Watson & Son, Bombay, East India.—Indian furniture, etc. 217
- 131 Collinson & Lock, London.—Furniture, wall papers, and textile fabrics in the old English style. 217
- 131^a Neal, John, London.—Table ware. 218
- 132 Goggin, Jeremiah, Dublin.
^a Table ornaments, drinking cups, tankards, etc. 218
^b Mirrors. 218

BRITISH ADVERTISEMENT.

Established 1801.

JONAS BROOK & BROTHERS

Meltham Mills,



near Huddersfield,

MANUFACTURERS OF

SEWING, CROCHET, AND EMBROIDERING COTTON,


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BROOK'S
PATENT GLACÉ
SPOOL COTTON,




Lengths
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FOR
HAND AND
MACHINE USE.



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Royal Patent
ONLY FIRST
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EXHIBITION
Prize Thread.

BROOK'S
SIX CORD
SOFT FINISH
SPOOL COTTON,



Lengths
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FOR
HAND AND
MACHINE USE.

BROOK'S PATENT GLACÉ THREAD, IN WHITE, BLACK, AND COLORS.

The extraordinary strength, smoothness, and durability obtained by this invention have secured for it great popularity, and it is consequently much imitated in inferior qualities. This Cotton is always labelled BROOK'S PATENT GLACÉ THREAD, and without their name and crest (a GOAT'S HEAD), the words "Glacé," or "Patent Glacé," do not denote that it is of their manufacture.

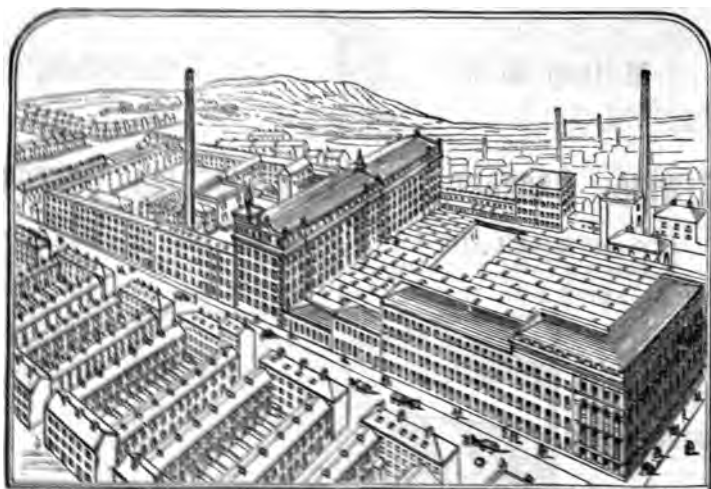
BROOK'S PATENT NINE AND SIX CORDS will be found of very superior quality, and are strongly recommended wherever a SOFT COTTON is preferred.

EXHIBITION PRIZES.

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Prize Medal London, 1862. | Gold Medal Paris, 1866

ONLY DIPLOMA OF HONOUR, VIENNA, 1873.

PURE IRISH LINENS.



ESTABLISHED 1830.

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FLAX SPINNERS, POWER-LOOM WEAVERS, BLEACHERS & MERCHANTS,

MANUFACTURERS OF

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Natural Dress Linen. Grenadines,
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LONDON	2, Essex Row, Milk Street.
MANCHESTER	15, Piccadilly.

Woven Goods.

- 168^a Briggs, J. F., & Co., Huddersfield,** Yorkshire.—Drills and ducks. 230
- 169 Ashworth, Edmund, & Sons, Egerton Mills, Bolton, Lancashire.**—Cotton in various stages of manufacture; yarns, sewing cottons; crochet, embroidery, knitting, mending, and glove cottons, linen finish thread. 230
- 170 Pearson, Thomas, & Son, Victoria Mills, Little Bolton.**—Quilts, quiltings, toilet covers, and mats. 230
- 171 Hawkins, John, & Sons, Manchester.**—Plain and twilled calicoes and prints. 232
- 172 Ferguson Bros., Holme Head Works, near Carlisle.**—Sateens. 231
- 173 Schwabe, Salis, & Co., Manchester.**—Cotton prints for garments, chintzes, and furniture. 232
- 174 Simpson & King, Manchester.**—Printed cotton furniture fabrics. 232
- 175 Marshall & Co., Leeds.**—Linen sewing threads. 233
- 176 Normand, James, & Sons, Dysart, Fifeshire, Scotland.**—Linsens for house-keeping, shoe linings, etc. 233
- 177 Ewart, William, & Sons, Belfast, Ireland.**—Linen fabrics. 233
- 178 The York Street Flax Spinning Co. (limited), Belfast.**—Linen piece goods, drills, ducks, sheetings, shirtings, and frontings. 233
- 179 Matier, Henry, & Co., Belfast.**—Bleached and printed linsens; handkerchiefs, plain, hemstitched printed, and embroidered. 233
- 180 Ainsworth, Thomas, Cleator Mills, Cleator, Cumberland.**—Linen threads and towels. 233
- 181 Ullathorne & Co., London.**—Shoe and saddlers' threads. 233
- 182 Fenton, Connor, & Co., Linen Hall, Belfast.**—White linsens, cambric, table linsens, linen ducks, drills, etc.; printed shirtings and lawn dress goods. 233
- 183 Brown, John S., & Sons, Belfast.**—Table linen, diapers, sheetings, shirting linen, lawns, linen and cambric handkerchiefs. 233
- 184 Richardson, J. N., Sons, & Owden, Belfast.**—Linen goods. 233
- 185 Dicksons, Fergusson, & Co., Belfast.**—Linsens bleached and unbleached. 233
- 190 Dunbar, McMaster, & Co., Gifford, Ireland.**—Linen threads. 233
- 191 Nairn, Michael, & Co., Kirkaldy, Scotland.**—Floor oil cloths. 234
- 192 Corticine Patent Floor Covering Co., London.**—Floor covering. 234
- 193 Hall, Thomas, Edinburgh.**—Hand painted cloths in imitation of tapestry, for wall decoration. 234
- 194 Wellock, J., & Co., Bradford, Yorkshire.**—Waterproof materials for cart and wagon covers. 234
- 195 Boulonikon Floor Cloth Manufacturing Co. (limited), Manchester.**—Floor cloth. 234
- Woven and Felted Goods of Wool, etc.**
- 196 Andrews, Henry, & Co., Leeds.**—Worsted coatings, wool and union cloths, and wool meltons. 235
- 197 Brown, John S., & Sons, Belfast.**—Yarns. 235
- 198 Hooper, Charles, & Co., Eastington Mills, Stonehouse, Gloucestershire.**—Woolens, broadcloths, military cloths, doeskins, beavers, elysians, kerseys, meltons, coatings, and trousersings. 235
- 199 Salter, Samuel, & Co., Home Mills, Trowbridge, Wiltshire.**—Trousersings and coatings. 235
- 200 Dunbar, McMaster, & Co., Gifford, Ireland.**—Gray and bleached yarns. 235
- 201 Mahony, Martin, & Bros., Blarney, Ireland.**—Tweeds, boating serge, worsted coatings, railway traveling wraps. 235
- 202 Anderson, David, & Son, Lagan Felt Works, Belfast, Ireland.**—Roofing, flooring, and ship sheathing felt, lining felt, hair felts for covering boilers and steam pipes. (*In Machinery Hall.*) 235
- 203 Bliss, William, & Son, Chipping Norton, Oxon.**
a Tweeds, woolen serges, and saddlers' woolens. 235
b Shawls. 337
c Mauds and rugs. 239
- 204 Brigg, J. F., & Co., Huddersfield, Yorkshire.**—Beavers, coatings, chevot, cassimeres, carriage and livery cloths, doeskins, elysians, meltons, kerseys, pilots, rugs, vestings and quiltings, velvets, union cloths, witneys, and reversible coatings. 235
- 205 Carr, Isaac, & Co., Twerton Mills, Bath.**—Woolen cloths, meltons, twills, beavers. 235
- 206 Bubb & Co., Southfields Mills, near Stroud.**—Woolen cloths; billiards, government, and piano cloths. 235
- 207 Marling & Co., Ebley and Stanley Mills, Stroud, Gloucestershire.**—Raw, scoured, and dyed wool; woolen cloths, beavers, venetians, doeskins, deerskins, cassimeres, etc. 235
- 208 King, William, Gilroyd and Albert Mills, Morley, Leeds.**—Union and melton cloths. 235
- 209 Birchall, J. D., & Co., Burley Mills, Leeds.**—Woolen and worsted goods. 235
- 211 Hargreaves & Nusseys, Farnley Low Mills, Leeds.**—Coatings, overcoatings, kerseys, meltons, woolen cloths. 235
- 213 Davies, Robert S., & Sons, Stonehouse Mills, Gloucestershire.**—Cloths, doeskins, venetians, meltons, coatings, beavers, etc. 235
- 214 Little, T. W., & Co., Leeds.**—Mantle cloths, waterproof tweeds, twills, meltons, blue and black deerskins, and agonals.

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-

Woven Goods, Silk, Clothing.

- 215** Jones, Pryce, Newtown, North Wales.
 a Welsh flannel, homespuns, tweeds, yarns, etc. 236
 b Shawls. 237
- 216** Buckley, Joseph, & Co., Moorcroft Mills, Delph, near Manchester.—Shawls, raised fancies, Rob Roys, and shepherds. 237
- 217** Farmer & Rogers, London.—Cashmere shawls. (*In Indian Section.*) 237
- 218** Buckley, J. E. & G. F., Linfitts Mill, Delph, near Manchester.—Queensland and beaver shawls. 237
- 218a** Hepworth, B., & Sons, New Wakefield Mills, Dewsbury, Yorkshire.
 a Railway knee wrappers. 237
 b Rugs. 239
- 218b** McGee, John G., & Co., Belfast, Ireland.
 a Traveling wraps, shawls, etc. 237
 b Rugs. 239
- 219** Williams, E. G., & Co., Bradford, Yorkshire.—Textile fabrics for dress goods. 238
- 220** Pim Bros. & Co., Dublin.—Irish poplins, silk terries, and brocates. 238
- 221** Henderson & Co., Durham.—Durham axminster. 239
- 222** Lewis, John, Halifax, Yorkshire.—Brussels and Wilton carpets. (*British Offices.*) 239
- 223** Gregory & Co., London.—Indian and Persian carpets. 239
- 224** Robinson, Vincent, & Co., London.—Carpets and rugs. 239
- 225** Crossley, John, & Sons (limited), Dean Clough Mills, Halifax, Yorkshire.—Carpets, rugs, sofa carpets, table covers, etc. 239
- 226** Tomkinson & Adam, Kidderminster.—Axminster carpets. 239
- 227** Lapworth Bros., London.—Carpets and rugs. 239
- 228** Templeton J. & J. S., Glasgow.—Brussels and Wilton carpeting; silk and wool window curtains. 239
- 228a** Welch, Margetson, & Co., London.—Rugs. 239
- 229** Templeton, James, & Co., Glasgow.—Axminster carpets, breadth carpeting, hearth rugs. 239
- 229a** Taping, Thomas, & Co., London.—Tapestry. 239
- 230** Webb, Edward, & Sons, Worcester.—Hair cloth for furniture covering, hair cloth paddings, curled hair, crinoline, hair cloth. 240
- 230a** McIntock, James, & Sons, Barnsley, Yorkshire.—Down quilts and pillows. 240
- 231** Wild, John, Greenfield Mills, Shaw, near Oldham.—Cotton plush velvet. 231
- Silk and Silk Fabrics.**
- 232** Sheldon & Fenton, London.—Sewing silks, tailors' twist, machine silks, etc. 243
- 233** Rickards, Charles Ayscough, Bell Busk Mills, near Leeds.—Sewing and machine silks, twists; embroidery, knitting, and crochet silks. 243
- 234** Milner, Wm., & Sons, Leek, Staffordshire.—Sewing silks. 243
- 235** Ward, Anthony, & Co., Albion Silk Mills, Leek, Staffordshire.—Silk threads. 243
- 236** Adams & Co., London.—Knitting silks, filonelle. 243
- 237** Hilditch, G. & J. B., London.
 a Silk and silk fabrics. 245
 b Velvets. 248
- 238** Norris & Co., London.—Silk for furniture and upholstery purposes. 246
- 238a** Stewart, Moir, & Muir, Glasgow.—Curtains for window and decorative purposes and for use in the British section. 246
- 239** French & Co., St. Mary's Mills, Norwich.—Black crape. 247
- 239a** Simon, May, & Co., Nottingham.—Nets, Shetland scarfs, shawls, elastic webs, etc. 247
- 239b** Welch, Margetson, & Co., London.—Scarfs, ties, and silk handkerchiefs. 247
- 240** Stevens, Thomas, Stevengraph Works, Coventry.—Jacquard loom at work; ribbons, neckties, sashes, badges, and emblematical regalia; navy hat ribbons, gold and silver lace, silk-centred sachets. 248
- 241** Heymann & Alexander, Nottingham.—Nets, quillings, trimmings, etc. 249
- 242** Turner, Archibald, & Co., Leicester.—Elastic fabrics, cords, and braids. 249
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 245** Morley, J. & R., London.
 a Hosiery. 250
 b Gloves. 251
- 246** McIntock, James, & Sons, Barnsley, Yorkshire.
 a Down quilts, skirts, jackets, and dressing gowns; dress improvers. 250
 b Slippers. 251
- 247** Welch, Margetson, & Co., London.
 a Linen collars, shirtings, etc. 250
 b Umbrellas. 254
- 248** Sykes, Josephine, & Co., London.—Corsets and ladies' belts. 250
- 249** Hitchcock, Williams, & Co., London.—Costumes of mixed fabrics. 250
- 250** McGee, John G., & Co., Belfast, Ireland.—Ulster overcoats and Irish homespun goods. 250
- 250a** Connor, Mrs., Dublin.—Patchwork quilt. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PIM BROTHERS & Co.



SOUTH G^T GEORGES ST., DUBLIN.

MANUFACTURERS OF

Irish Poplins AND Irish Linens.



HAVE BEEN AWARDED PRIZE MEDALS FOR THEIR POPLINS WHEREVER EXHIBITED.



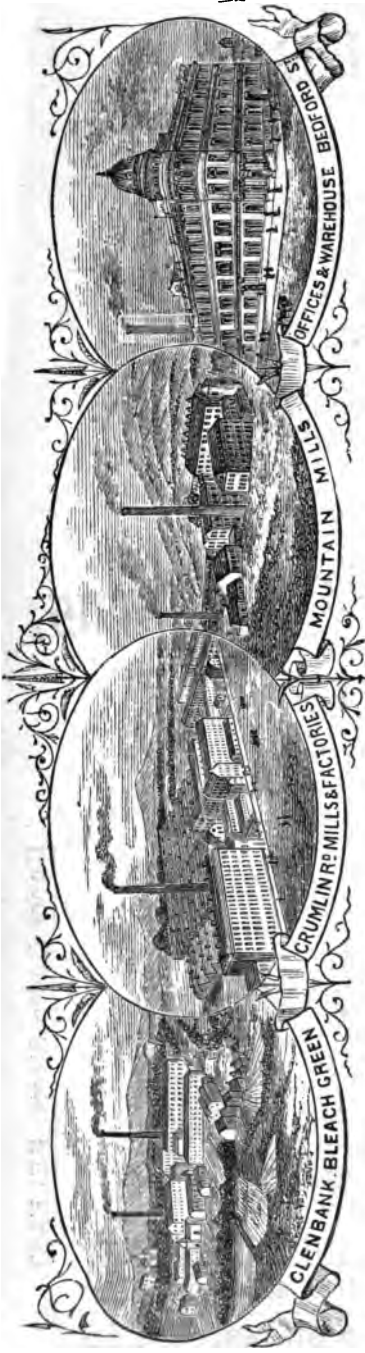
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Flax Spinners, Linen Manufacturers, Bleachers and Merchants.
BELFAST, NEW YORK. AND MANCHESTER.

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 OFFICES, WAREHOUSE, and WEAVING FACTORY—BEDFORD STREET.
 BLEACH GREEN—GLENBANK.*

BELFAST.

SPINNERS OF FLAX AND TOW YARNS.

MANUFACTURERS, BLEACHERS, DYERS, AND FINISHERS OF LINENS AND UNIONS.
 Brown, Bleached and Printed Drills; Imperial and Brown Ducks.

Canvas; Clothing and Dress Goods; White and Printed Lawns; Hollands; White Shirting Linens; Sheetings; Damasks; Table Napkins; Diapers; Handkerchiefs; &c., &c., &c.

... hands, and contain 31,000 Spindles and 1,500 Power Looms.

Clothing, Jewelry, Fancy Goods.

- 251** Smyth & Co., Balbriggan, Ireland.—Balbriggan hosiery, lace hose, light stockings. 250
- 251a** Turner, George, & Co., London.
a Military and traveling equipments; appliance for picketing horses. 250
b Hammock-valise and canteen. 253
- 252** Roe, William Allen, Leicester.—Boots and shoes. 251
- 253** Lobb, John, London.—Gentlemen's and ladies' boots. 251
- 254** Dash, Osmond, Brighton.
a Hats and caps. 251
b Umbrellas. 254
- 260** Lincoln, Bennett, & Co., London.—Hats. 251
- 261** Humbert, Hermann, London.—Hats and bonnets; hat and bonnet shapes. 251
- 263** Debenham & Freebody, London.—Gloves. 251
- 264** Tress & Co., London.—Hats; pith and felt solar hats and helmets. 251
- 264a** Jacoby, M., & Co., Nottingham.—Valenciennes and silk guipures; imitation Swiss curtains, lace curtains. 252
- 265** Smith, George John, London.—Irish lace made by the Industrial Poor. 252
- 265a** Heymann & Alexander, Nottingham.—Silk, wool, and cotton laces. 252
- 266** Dunraven, the Countess of, Adare, County Limerick, Ireland.—Embroidery on lawn; robes, pocket handkerchiefs, insertion for dresses, pincushion cover, etc. 252
- 266a** Simon, May, & Co., Nottingham.—Lace curtains, valances. 252
- 267** Goggin, Jeremiah, Dublin.
a Jewelry. 253
b Reading-stands, walking-canes, pipes, etc. 254
- 269** Francati & Santamaria, London.—Jet ornaments, brooches, earrings, bracelets, necklaces, etc.; jet cameo mosaics, carved by Roman cameo cutters. 253
- 271** Neal, John, London.—Gold and silver jewelry, precious stones. 253
- 272** Aitchison, James, Edinburgh.—Scottish jewelry, in gold and silver; Highland ornaments, and stones found in Scotland. 253
- 273** Gibson, William, Belfast.
a Gold, diamond, and Irish bog oak jewelry. 253
b Walking-sticks and table ornaments. 254
- 274** English, John, & Co., Feckenham, Worcestershire.—Needles; fishhooks; steel pins; hairpins; bodkins. 254
- 275** Johnson, J., & Co., Charterhouse Works, Sycamore street, London.—Shell boxes, toy furniture and ornaments, and fancy paper boxes. 254
- 276** Davis & Wilson, Birmingham.—Whip, walking-stick, and umbrella mountings; African chiefs' canes; whips and general whip materials. 254
- 277** Millward, Henry, & Sons, Redditch.—Needles, sewing machine needles, fishhooks. 254
- 278** Turner, R., & Co., Old Factory, Redditch.—Needles, pins, fishhooks, etc., displayed in a glass case, forming model of the exhibition of 1851. 254
- 279** Swaine & Adeney, London.—Whips, whip lashes, thongs, and sockets; horns, canes, and walking-sticks; sporting apparatus. 254
- 280** Smith, John Wright, Leicester.—Self-acting needles used in hosiery frames. 254
- 281** Kent, George Barton, & Co., London.—Ivory paper knives and shoe lifts. 254
- 282** Evans, David, Studley, Redditch.—Needles for hand and machine sewing. 254
- 283** Fenton, James, Birmingham.—Pearl buttons. 254
- 284** Kirby, Beard, & Co., Birmingham.—Pins, needles, hairpins, fishhooks, etc. 254
- 284a** Elrick, Charles Gray, Aberdeen, Scotland.—Dressing combs; real and imitation shell, side braid, and high Spanish combs, etc. 254
- 285** Sangster & Co., London.—Umbrellas, parasols, sunshades, whips, canes. 254
- 286** Smith, James, & Son, Astwood Bank, near Redditch.—Needles, showing stages of manufacture; bodkins, hairpins, and fancy cases for holding needles. 254
- 287** Hayes, Crossley, & Co., London.—New shape sewing needles, machine needles, pins, bodkins, and specimens in various stages of preparation. 254
- 288** Cooke Bros., Birmingham.—Safety pins, curtain hooks, and fancy nails. 254
- 289** Woodfield, William, & Sons, Easemore Works, Redditch.—Needles, sewing machine needles, fishhooks, etc.; sail tools and fancy needle cases. 254
- 290** Martin, William Henry, London.—Umbrellas, walking-sticks, whips. 254
- 292** Tayler, D. F., & Co., New Hall Works, Birmingham.—Solid-headed toilet pins, hairpins, hooks and eyes, pearl buttons. 254
- 295** Hoe, Richard, & Sons, London.—Leather portmanteaus, hat cases, and bags. 255
- 295a** Ward, Marcus, & Co., London.—Fancy leather work. 255
- 296** Harrington, J., & Co., London.—Imitation leather hat linings, shoes and shoe linings, wall decorations, pocket-books, belts, dispatch boxes, dressing and jewel cases, glove and handkerchief boxes, etc. 255
- 297** Bussey, Geo. G., & Co., London.—Chili leather portmanteaus, trunks, traveling bags, and leather and waterproof goods used for shooting and traveling purposes. 255

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Stationery, Weapons.

297a Jeffreys, Charles, London.—Leather traveling and jewel cases; morocco and velvet cases. 255

Paper, Blank Books, and Stationery.

299 Hinks, Wells, & Co., Buckingham Steel Pen Works, Birmingham.—Steel pens, penholders. 258

300 Stephens, Henry Charles, London.—Inkstands, gum mucilage, quills, sealing wax, parallel rulers. 258

301 Ortnor & Houle, London.—Seal engraving, steel and copper plate heraldic engraving, and die sinking. 258

302 Ward, Marcus, & Co., London.
a Writing paper and envelopes, diaries, calendars, etc. 258
b Photograph albums and scrap books. 261
c Cards and valentines. 262

303 Blackwood, John, & Co., London.—Sealing and bottle wax. 258

304 Lyons, William, Manchester.—Sealing wax, gum mucilage. 258

305 Waterston, George, & Son, Edinburgh.—Sealing wax. 258

306 Ford Works Co., Ford, Durham.—Paper stock, manufactured from esparto grass; products from esparto, bamboo, megasse, phormium tenax, maize, and other fibres. 259

307 Dudgeon, Arthur, London.—Writing-papers; paper pulp manufactured from peat. 259

308 Pirie, Alexander, & Sons, London.
a Writing-papers. 259
b Cardboard. 262
c Enameled papers. 264

310 Fletcher, Robert, & Son, Kersley Paper Works, Stoneclough.—White and colored papers, fine tissues, silver tissues, copying and cigarette papers. 259

311 Birdsall & Son, Northampton.—Binding of the Hexaglot Bible. 261

312 Goodall, Charles, & Son, Camden Works, London.—Playing and Christmas cards. 262

313 Rimmel, Eugene, London.
a Valentines. 262
b Fancy crackers. 661

313a Stevens, Thomas, Stevengraph Works, Coventry.—Cards and valentines. 262

314 Jeffrey & Co., London.—Artistic wallpaper decorations. 264

Military and Naval Armaments, Ordnance, Firearms, and Apparatus of Hunting and Fishing.

315 Reilly, E. M., & Co., London.—Breechloading guns and express rifles. 265

315a Bussey, Geo. G., & Co., London.—Breechloading guns and their accessories; gyro pigeon. 265

316 Greener, William Wellington, Birmingham.—Sporting guns and rifles; breechloading guns. 265

317 Rigby, John, & Co., Dublin.—Guns and rifles and their accessories. 265

318 Henry, Alexander, Edinburgh.—Breechloading express rifles, fowling-pieces, harpoon and bomb-lance guns; military arms and target rifles. 265

319 Clay, Randolph, London.—Converter for breechloading firearms. 265

320 Dougall, James Dalziel, Glasgow.—Long-range shotguns and rifles. 265

322 Lancaster, Charles, London.—Guns, rifles, cannon; drawings and models of the oval bored. 265

323 Scott, W. & C., & Sons, Premier Gun Works, Birmingham.—Sporting firearms, revolvers, gun materials. 265

324 Needham, J. & G. H., London.—Breechloading double guns. 265

325 Purdey, Jas., London.—Guns, rifles, etc. 265

326 Lancaster, Alfred, London.—Sporting guns and rifles. 265

327 Soper, William, Reading.—Rifles. 265

328 Lang, J., & Sons, London.—Guns and rifles. 265

328a Eley Bros. (limited), London.—Paper and metal cartridge cases (empty), sporting and military percussion caps, gun waddings. 265

329 Webley, P., & Son, Birmingham.—Sporting breechloading guns, rifles, and revolvers. 265

329a Hewitt, William, Bristol.—Breechloading gun, gun carriage. (*See Machinery Hall*). 266

330 Needham, John, Sheffield.—Daggers. 268

331 Brookes & Crookes, Atlantic Works, Sheffield.—Sportsmen's and bowie knives. 268

333 Buchanan, James, Glasgow.—Sea fishhooks. 269

334 Ryder, William Henry, Birmingham.—Fishing tackle. 270

335 Green, E. C., Cheltenham.—Sporting guns, with their appurtenances; cleaning rods, with attachments; cartridge-loading implements, nipple keys, gun cases and bags. 269

336 Tolley, J. & W., Pioneer Works, Birmingham.—Sporting breechloading shot guns, implements, cartridge cases, lubricators, bullets, and primers for reloading cartridges. 269

337 Williams & Powell, Liverpool.—Breechloading guns. 269

Medicine, Surgery, and Prothesis.

338 Allen & Hanbury, London.—Cod-liver oil; gelatine impregnated with atropine and calabar bean, for application to the eye. 271

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

JOHN CLARK, JR. & CO.'S

MILE END, GLASGOW,

BEST

Six-cord Spool Cotton

ON BLACK SPOOLS,

IS UNRIVALLED

FOR

HAND AND MACHINE USE.

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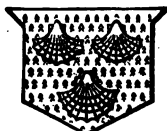
MONTREAL.

BRITISH ADVERTISEMENT.

Vienna Universal



Exhibition.



Trade Mark.

Medal for Merit,



1873.

JOHN DEWHURST & SONS,
Cotton Spinners,

AND MANUFACTURERS OF

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BELLE-VUE MILLS,
SKIPTON, YORKSHIRE

COTTON SPINNERS FROM A.D. 1794.

SEWING COTTON MANUFACTURERS FROM A.D. 1870.

—♦—
AGENTS IN THE UNITED STATES,
Messrs. WILSON & MERRILL, BOSTON.

Medical and Surgical Appliances, Hardware, Cutlery, Vehicles.

- 339** Gerrard, Alfred William, London.—Mustard plasters. 272
- 340** Evans, Sons, & Co., Liverpool.—Vegetable, animal, and mineral drugs; pharmaceutical products and accessories. 272
- 341** Usher, Rufus, Bodicote, Oxon.—Medicinal rhubarb; extract of henbane and dried henbane leaves; photographs of henbane plants. 272
- 342** Mackay, John, Edinburgh.—Articles of diet for invalid and table use. 273
- 343** Mellin, Gustav, London.—Non-farinaceous food for infants and invalids. 273
- 344** Goodall, Backhouse, & Co., Leeds.—Food for infants and invalids. 273
- 345** Lynch & Co., London.—Druggists' sundries and surgical instruments; spinal apparatus, chest protectors, feeding bottles, spray producers, poison bottles, etc. 276
- 346** Glasgow Apothecaries Co., Glasgow.—Surgical appliances and antiseptic dressings. 276
- 347** Mayer & Meltzer, London.—Surgical instruments. 276
- 348** Lee, Robert James, London.—Steam draft inhaler and disinfectant. 276
- 348a** Haywood, J. S., Nottingham.—Surgical bandages, belts, trusses, etc. 276
- 349** Turner, Archibald, & Co., Leicester.—Surgical braids and bandages. 276
- 350** Pulvermacher, Isaac Louis, London.—Electrical instruments for medical purposes. 276
- 353** Liverpool Spun Oakum Co., Liverpool.—Oakum, stygium; pure antiseptic dressing for hospital use. 276
- 353a** Clay, Randolph, & Co., London.—Portable invalid bed tray. 278
- 354** Turner, George, & Co., London.—Ambulances. 278
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 355** Ward & Payne, Sheffield.
a Tools for carpenters, joiners, coachmakers, shipwrights, millwrights, masons, bricklayers, tanners, curriers, engravers, die-sinkers, plasterers; wood, stone, and metal carvers and turners, etc. 280
b Sheep shears. 281
- 356** Smith, John & Samuel, Low Bridge Works, Keighley, Yorkshire.—Engineers' and machinists' tools. (*In Machinery Hall.*) 280
- 357** Baker, William, London.—Awls, bodkins, needles for saddlers, packers, and upholsterers; screwdrivers. 280
- 358** Addis, J. B., & Sons, Arctic Works, Sheffield.—Tools for carving stone and wood; turning tools for iron, brass, ivory, hard wood, etc.; carpenters' tools. 280
- 359a** Needham, John, Sheffield.—Cutlery, table and dessert knives and forks, fish eaters. 281
- 359b** Wostenholm, George, & Son (limited), Sheffield.—Cutlery. 281
- 359c** Brooks, Henry, & Co., London.—Metal stoppers and collapsible tubes for artists' colors. 281
- 359d** Burnand, James, & Co., Sheffield.—Table cutlery, etc. 281
- 359e** Needham, John, Sheffield.—Cutlery. 281
- 360** Neal, John, & Co., London.—Table, dessert, and fish cutlery. 281
- 360a** Brookes & Crookes, Atlantic Works, Sheffield.—Pen, pocket, and table knives, scissors, razors, and dressing case instruments, cutlery. 281
- 360b** Ryder, William Henry, Birmingham.—Taps for drawing effervescent wines or aerated waters. 281
- 360c** Mayer & Meltzer, London.—Cutlery. 281
- 361** The Patent Nut & Bolt Co. (limited), London Works, near Birmingham.—Iron bolts, nuts, screws, rivets, and washers; fish and sole plates; fish bolts, spikes, and fang bolts. 284
- 362** Francis, Thomas, & Co., Birmingham.—Nails. 284
- 363** Baker, Christopher, & Sons, Birmingham.—Coffin furniture; cabinet and general brass fittings; rails, stair rods, nails, and bolts. 284
- 364** The Phosphor Bronze Co. (limited), London.—Phosphor bronze tools, locks, tubes, wire, sheet, steam fittings, parts of machinery, etc. 284
- 365** Adams, Robert, London.—Hinges and shoes, secure fastening bolts, weather-tight sill bars for French casements, etc. 284
- 366a** Turner, George, & Co., London.—Screw anchor peg. 284
- 367a** Ullathorne & Co., London.—Heel balls and shoe findings. 284
- 367b** Turner, Archibald, & Co., Leicester.—Elastic fabrics. 285
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 368** Low, Son, & Haydon, London.—Brushes. 286
- 369** Kent, George Barton, & Co., London.—Brushes. 286
- 370** Culmer, W., & Sons, London.—Brushes used in decorative art. 286
- 371** Bevis, Henry, London.—Silk banner with emblematic designs. 288
- 372** Spill, Daniel, London.—Ivoride. 289
- 372a** Barnard, Brady, London.—Bassinettes, baskets, etc. 289
- Carriages, Vehicles, and Accessories.**
- 373** Windover, Charles Sandford, London.—Brougham, canoe, landau, Victoria, Parisian, and Stanhope phaeton. 29

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Vehicles.

- 374 Mulliner, H., & Co., Northampton.—Carriages. 292
- 375 McNaught & Smith, Worcester.—Barouche, landau, and broughams. 292
- 376 Thorn, Charles, Norwich.
a Carriages. 292
b Shooting and baggage cart. 294
- 377 Roberts, John, Manchester.—Parisian phaeton. 292
- 378 Hooper & Co., London.—Carriages and drawings. 292
- 380 Peters, Thomas, & Sons, London.—Carriages. 292
- 381 Thompson, Charles, London.—Perambulator. 293
- 381^a Roberts, Digby, Coventry.—English bicycle. 293
- 382 Hawkins Bros., Hatherton Works, Walsall.—Bits, stirrups, spurs, chains, buckles, and general saddlery iron work. 296
- 383 Hudson, Samuel, Dublin.—Trace and shaft tug safety buckles; safety stirrup. (*In Swaine & Adeney's case.*) 296
- 384 Martin, Robert, Old Charlton, Kent.—Horse clipping machines; circular cutters for cutting the teeth of the above machines. (*In Machinery Hall.*) 296
- 385 Pollock, Sydney, London.—Apparatus for checking runaway and unmanageable horses. 296
- 387 Goodall, Chas., & Son, London.—Card printing. 424
- 388 Cohné, Sigismund, London.—Bearings requiring no lubricant. 573
- 389 Parkinson Bros., Burnley.—Spiced pickling vinegar. 660

(N. B.—Certain exhibits in this Department, from Great Britain, are installed in Agricultural Hall, and catalogued in Part IV.)

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

SHELL BOX MANUFACTURERS,
J. JOHNSON & CO.,
Charterhouse Works,
LONDON, ENGLAND.

See Show Cases
in
Industrial Hall.

SHELL COTTAGES,
HANDKERCHIEF & GLOVE BOXES,
TOY FURNITURE,
And all kinds of Ornamental Boxes.

NEW ZEALAND.

(North of Nave, Columns 10 to 17.)

Manufactures, Education and Science.

Chemicals.

- 1 Horler, John, Woolston, Canterbury.—Soap and mould candles. 201
- 2 Innes, W. M., Port Chalmers, Otago.—Cod-liver oil. 201
- 3 Louisson, T. B., Nelson.—Paint made from hematite ore. 202
- 4 Johnstone Brothers, Nelson.—Umbel and red pigments made from hematite ore. 202
- 5 Grayling, W. S., Taranaki.—Extract of towai (*Weinmannia racemosa*); extract of hinau (*Eldeocarpus dentatus*). 202

Ceramics—Pottery, Porcelain, Glass, etc.

- 6 Kennedy Bros., Nelson.—Fire bricks. 207

Furniture and Objects of General Use in Construction and in Dwellings.

- 7 Greenfield & Stewart, Wellington.—Panel door made of rimu (*Dacrydium cupressinum*). 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 8 Government of New Zealand.—Specimens of fabrics made from Phormium tenax. 233

Woven and Felted Goods of Wool, etc.

- 9 Webley Bros., Nelson.—Nelson tweeds made from New Zealand wool. 235
- 10 Cook, James, Nelson.—Woolen rugs, woven and dyed at Nelson. 239

Clothing, Jewelry, and Ornaments, Travelling Equipments.

- 11 Taylor, B. K., Wanganui.—Hat made of kiekie (cordyline). 251
- 12 Liardet, H. E., Wellington.
 - a Fancy articles made from feet and bones of sea birds. 254
 - b Feathers, muffs, collarettes, wristlets, etc. 256
- 13 Taylor, Mrs. Richard, Wanganui.—Ornamental satchel and table mat. 254
- 15 New Zealand Commissioners.—Garments and ornaments of the Maoris. 257

Fabrics of Vegetable, Animal, or Mineral Materials.

- 16 Moyle, Edward, Taranaki.—Cord made from phormium tenax. 287

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

- 17 Bevan, Thomas, jr., Otaki, Wellington.—Rope made from Maori dressed phormium, fish line, horse halter, lead line, twine. 287
- 18 Bevan & Sons, Otaki, Wellington.—Cord and twines made from Maori dressed phormium. 287
- 19 Kinross & Co., Hawke Bay.—Cordage and twines made from Maori dressed phormium. 287
- 20 Grant & Co., Otago.—Cordage made from phormium. 287
- 21 Auckland Patent Steam Rope Co.—Phormium rope. 287
- 22 Canterbury Flax Association, Christchurch.—Tarred and untarred cordage made from phormium. 287
- 23 Lennon, T., Christchurch.—Cordage, ropes, and twines, made from phormium. 287
- 24 Cook, James, Nelson.—Mats and matting made from phormium. 287
- 25 Simons & Malcolm, Nelson.—Door mats made from phormium. 287

Institutions and Organizations.

- 26 Colonial Museum, J. Hector, Director.—Garments and ornaments of the Maoris. 312
- 27 National Museum at Washington, J. Henry, Secretary.—Garments of the Maoris. 312
- 27a New Zealand Commissioners.—Weapons of the Maoris. 312

Engineering, Architecture, Maps, etc.

- 28 Government of New Zealand.—Geological maps of New Zealand, by James Hector. 335
- 29 Geological Survey Department, James Hector, Director.—Geological plans and sections. 335
- 30 Canterbury Museum, J. von Haast, Director.—Geological plans and sections. 335
- 31a Hector, J.—Relief Model of New Zealand, geologically colored. 335
- 32b Government of New Zealand.—Topographical map of the colony, engraved by E. Ravenstein. 335

Physical, Social, and Moral Condition of Man.

- 33 National Museum, Washington, J. Henry, Secretary.—Canoe paddles of Maoris; skulls of Maoris and Moriori from the Chatham Islands. 34

Education and Science, Art, Agriculture.

- 34 Woon, R. W., Wanganui.—Canoe paddles of the Maoris. 340
- 35 Government of New Zealand.—Statistics and census of New Zealand for 1874, prepared by W. R. E. Brown, Registrar-General. 345
- 35^a Hector, J.—Transactions and Proceedings of the New Zealand Institute, Vols. I. to VII. 345
- 35^b Vogel, Sir Julius.—Hand-book of New Zealand. 345

Painting.

- 35^c Geological Survey Department, James Hector, Director.—Water color sketches by W. M. Cooper. 411

Engraving and Lithography.

- 35^d New Zealand Commissioners.—Pictures from W. L. Buller's "Birds of New Zealand," drawn by J. H. Keulemans. 422

Photography.

- 36 Burton Bros., Dunedin.—Views of scenery of South Island. 430
- 36^a Bothamley, A. T.—Photographs of Maoris. 430
- 37 Government of New Zealand.—Views of scenery, etc., by H. Deveril. 430
- 38 Taranaki Committee.—Views of New Plymouth and surrounding country. 430
- 38^a Hector, J.—Photographs exhibiting domestic life of the Maoris. 430
- 39 Mundy, D. L.—Views of scenery, foliage, buildings, gold mining, etc. 430

Railway Plant, Rolling Stock, etc.

- 40 Government of New Zealand.—Photographs of engines and engineering works used in New Zealand. 570

Arboriculture and Forest Products.

- 41 Cruickshank, J. D., Upper Hutt Saw Mills, Wellington.—Section of trunk of rimu (*Dacrydium cupressinum*), red pine of settlers. 600
- 42 Westland Committee.—Specimens of woods with bark. 600
- 43 Taranaki Committee.
^a Specimens of woods. 601
^b Barks of the Atawhero and the Pukatea: earth used by the Maoris as a mordant for dyes. 602
^c Dried ferns: fungus exported as food to China; excellent fern root; birds' nest fungus and curious parasite. 604
- 44 Black, W. B., American Coach Factory, Wellington.—Specimens of woods. 601
- 45 New Zealand Commissioners.—Specimens of woods. 601
- 46 Grayling, W. S., Taranaki.—Bark of hinau: blue earth, used by the Maoris, mixed with shark oil, as blue paint. 602

- 47 Colonial Museum, Wellington, James Hector, Director.—Tanbarks, native to New Zealand. 608

- 49 Walker, Renwicks & Co., New York.—Kauri gum. 603

- 50 Forbes, R. W., New York.—Kauri gum. 603

Agricultural Products.

- 51 Banks, E. H., Christchurch.—Oats and other cereals. 620
- 52 Wood, W. D., Christchurch.—Wheat. 620
- 53 Cunningham, P., & Co., Christchurch.—Wheat grown in Canterbury. 620
- 54 Ruddenklau, J. G., Addington, Canterbury.—Wheat. 620
- 55 Hooper & Dodson, Nelson.—Hops. 623
- 56 Wilkin, Robert, Christchurch.—Perennial rye grass and cocksfoot seed. 624
- 57 Armstrong, J. B., Christchurch.—Phormium seeds. 624

Animal and Vegetable Products.

- 58 Wilson, Thomas, Woolston, Canterbury.—Saddle, harness, and shoemakers' leather; fancy colored skins for shoemakers and bookbinders. 652
- 59 Armitage, Taranaki.—Dressed kip and calf leather. 652
- 60 Morris, Thomas, Oamaru, Otago.—Gentleman's town saddle. 652
- 61 National Museum, Washington, J. Henry, Secretary.
^a Specimens of kiwi; skeleton and bones of moa. 652
^b Egg of the kiwi, and model of egg of moa. 653
- 62 Gilmour, John, Christchurch.—Hams and bacon. 656
- 63 New Zealand Provision & Produce Company, Christchurch.—Preserved meats. 656
- 64 Nairn, David, Addington, Canterbury.—Tomato sauce. 656
- 65 Trent Brothers, Woolston, Canterbury.—Chicory in different stages of preparation. 657
- 66 Smith, James, Nelson.—Fruit wines. 660
- 67 Henderson & Farrah, Wanganui.—Ale and porter. 660

Horticulture.

- 68 Coates, Laning, Christchurch.—Live ferns. 707

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW SOUTH WALES.

(North of Nave, Columns 10 to 17.)

Manufactures, Education, Art.

Chemical Manufactures.

- 1 Read, R. B., Randwick.—Extract, leaves, and berries of *Smilaxis glycyphylla*, or Australian sarsaparilla. 200
- 2 Barrett & Co., Sydney.—Aerated waters and cordials. 200
- 3 Gilroy & Hurst, Sydney.—Baking, custard, egg, and butter powders. 200
- 4 Hunt, A. M., & Co., Goulburn.—Baking powders. 200
- 5 Swain & Co., Parramatta.—Washing fluid and soap. 201
- 6 New South Wales Shale & Oil Co., Sydney.—Kerosene oil, etc. 201
- 7 New South Wales Commissioners, Sydney.—Stearine candles. 201
- 8 Layton, Fred., Grafton, Clarence river.—Soap and candles. 201
- 9 Underwood, Thomas, Paddington.—Paints and paint pigment. 202
- 10 Hoff, M. Camille, Nakutakinna, New Caledonia.—Indigo. 202

Ceramics—Pottery, Porcelain, Glass, etc.

- 11 New South Wales Commissioners.—Churns, jars, etc. 210

Furniture, etc.

- 12 Lyons, Cottier, & Co., Sydney.—Stained glass staircase window—subject, "Captain Cook." 219
- 13 Hudson Brothers, Steam Joinery Mills, Sydney.—Window sashes, outside hall door, inside four-panel door, drapery panel door, French casements, cedar table legs. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 14 Read, John Cecil, Darlinghurst, Sydney.—Mats and matting made of cocoa fibre yarn, by aborigines of New South Wales and Frazer's Island. 229
- 15 Rudder, E. W., Kempsey.—Lincens. 233

Woven and Felted Goods of Wool, etc.

- 17 New South Wales Commissioners.
a Tweeds. 235
b Shawls. 237
- 18 Jennings, P. A., Sydney.—Rug of tanned platypus skin. 239
- 19 New South Wales Commissioners.—Wallaby skin rug. 239

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 20 Jennings, P. A., Sydney.—Collaret and cuffs of platypus skin. 250
- 21 Midgley, Mrs., Cook's River.—Wool flowers, copied from Australian native flowers. 254
- 22 Layton, Fred., Grafton.—Furs and skins of opossum, kangaroo, wallaby, and platypus. 256

Paper, Blank Books, and Stationery.

- 23 Government Printing Office, Sydney.—Blank books and printing. 261

Medicine, Surgery, Prothesis.

- 24 Spencer, John, Sydney.—Mechanical dentistry. 277

Fabrics of Vegetable, Animal, or Mineral Materials.

- 25 New South Wales Commissioners, Sydney.—Brushware. 286
- 26 New South Wales Commissioners, Sydney.—Manila rope, New Zealand flax rope, and lines. 287
- 27 Green, R., Sydney.—Cradles, flower stand, chair, perambulator; cane and willow work. 289

Carriages, Vehicles, and Accessories.

- 28 John Robertson, Sydney.—Buggy. 292
- 29 New South Wales Commissioners.—Lady's side saddle. 296
- 30 New South Wales Commissioners, Sydney.—Saddlery. 296

Educational Systems, Methods, and Libraries.

- 30a Government Printing Office, Sydney.—Books. 306
- 30b Sutherland, George.—Christian psychology. 306
- 30c Australian Museum.—Collection of birds, animals, etc. 312
- 30d New South Wales Commissioners.—Collection of birds. 312

Photography.

- 30e New South Wales Commissioners.—Photographs. 430
- 30f Holtermann, B. O.—Photographs. 439
- 30g Barnet, James.—Photographs. 439
- 30h Richards, Thomas.—Photo-lithographs. 439

Forest and Agricultural Products, Animal and Vegetable Products.

Arboriculture and Forest Products.

- 31 Macarthur, Sir W., assisted by Hill & Hanrahan & J. Hassell.—Woods of southern districts. 600
- 32 Moore, Charles.—Woods indigenous to the northern districts. 600
- 33 Shoober, James, Sydney.—Iron bark and turpentine timber. 600
- 34 Derepas, W., Yonngara Station.—Boree, and straight and curly yarran timber. 600
- 35 Hodgson, George, Redfern.—Timber from Bellinger river. 600
- 36 Penzer, J., Bundamar, near Dubbo.—Timber. 600
- 37 Du Faur, E., Sydney.—Timber from Mount Victoria. 600
- 37^a New South Wales Commissioners.—Woods indigenous to New South Wales. 600
- 38 Hudson Bros, Botany Road, Redfern.—Timber. 600
- 39 Derepas, R., Yonngara. 603
^a Yarran gum. 603
^b Quondong nuts. 605
- 40 Harling, Mrs., & H. H. Field, Sydney.—Pressed ferns. 604
- 41 Moore, Charles, Botanic Gardens, Sydney.—Seeds, ginger-root, and bitter bark. 605
- 42 Hemmings, F. W., Loma Loma, Fiji.—Dried cocoanut. 605
- 43 Ryder Bros, Mango Island, Fiji.—Dried cocoanut. 605

Agricultural Products.

- 44 Lovegrove, W., Terrara, Shoalhaven river.—Maize. 620
- 45 Ryder Bros, Mango Island, Fiji. 620
^a Maize. 621
^b Beans. 621
^c Turmeric and turmeric powder. 622
- 46 Peden, M. J., Bega.—Maize. 620
- 47 Demestre, E., Shoalhaven.—Maize. 620
- 48 Eggins, James, Grafton, Clarence river.—Maize. 620
- 49 Blain, C. R., Grafton, Clarence river.—Maize. 620
- 50 Macarthur, Sir W.—Maize. 620
- 51 Lewis Bros., Tamworth.—Wheat. 620
- 52 Dalton Bros., Orange.—Wheat. 620
- 53 Nelson Bros., Orange.—Wheat. 620
- 54 Jaeschke, Gustave, Clarence river.—Cigars and tobacco leaf. 623
- 55 Schweigert, W., & Co.—Cigars. 623
- 56 Muirhead, R., Grafton, Clarence river.—Cigars. 623
- 57 Hoff, M. Camille, Nakutakina, New Caledonia.—Coffee. 623

Land Animals.

- 59 Jennings, P. A., Sydney.—Stuffed platypus. 637

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Water Animals, Fish Culture and Apparatus.

- 60 Hemmings, F. & W., Loma Loma, Fiji.—Bêche de mer. 643

Animal and Vegetable Products.

- 61 Secombe, R., Milton, Ulladulla.—Preserved milk. 651
- 62 Wright, Davenport, & Co., Sydney.—Leather. 652
- 63 Forsyth, J., & Sons, Sydney.—Leather. 652
- 64 Alderson & Sons, Sydney.—Leather. 652
- 65 Bell, H., Sydney.—Tallow and neat's-foot oil. 652
- 66 Hewitt, T. G., Grafton, Clarence river.—Tallow and neat's-foot oil. 652
- 67 Berry, J. S., Botany, Sydney.—Neat's-foot oil and glue. 652
- 68 Layton, Fred., Grafton, Clarence river.—Beech wax. 654
- 69 Sydney Meat Preserving Co., Sydney.—Preserved meats. 656
- 70 Squires, Elam, Penrith.—Preserved fruits, jams, and jellies. 656
- 71 Hoff, Camille, Nakutakina, New Caledonia.—Preserved pineapples. 656
- 72 Biddell Bros, Sydney.—Preserved lemons and oranges. 656
- 73 Moore, Charles, Botanic Gardens, Sydney.—Preserved lemons and oranges. 656
- 74 Watson Bros., Young.—Flour. 657
- 75 Lewis Bros., Tamworth.—Flour. 657
- 76 Cohen & Levy, Tamworth.—Flour. 657
- 77 Dalton Bros., Orange.—Flour. 657
- 78 Nelson Bros, Orange.—Flour. 657
- 79 Waters, James, Ravensdale, Brisbane Water.—Arrowroot. 658
- 80 Cole, W., & Son, Tomago, Hunter river.—Arrowroot. 658
- 81 Laurie, W. & L., Gloucester, Port Stephens.—Arrowroot. 658
- 82 Ryder Bros., Mango Island, Fiji.—Arrowroot. 658
- 83 Payne, George, Grafton, Clarence river.—Arrowroot. 658
- 84 Champion, George, Ulmarra, Clarence river.—Arrowroot. 658
- 85 Munn, A. L., Merimbula.—Maizena. 658
- 86 Colonial Sugar Refining Co.—Refined sugars. 659
- 87 Martin, George, Grafton, Clarence river.—Sugar. 659
- 88 Chowne, E. G., Ulmarra, Clarence river.—Sugars. 659
- 89 Biddell Bros., Sydney.—Confectionery. 659
- 90 New South Wales Co., Clarence river.—Raw sugars. 659
- 91 Fallon, James T., Albury.—Wines. 660
- 92 Munro, A., Bebeah, Singleton.—Wines. 660

Vegetable Products, Textile Substances.

- 93 Carmichael, G. L. & J. B., Porphyry, Williams river.—Wines. 660
- 94 Brecht, Carl J. P., Rosemount, Denman.—Wines. 660
- 95 Powell, Edward, Richmond.—Wines. 660
- 96 Parnell, Montague, West Maitland, Hunter river.—Wines. 660
- 97 Wyndham, Wadham, Bukkulla, Inverell.—Wines. 660
- 98 Wyndham, George, Braxton, Hunter river.—Wines. 660
- 98a Doyle, J. F., Kaloodah, Lochinvar.—Wines. 660
- 99 Monk, D. J., Sydney.—Malt and wine vinegars. 660
- 100 Marshall, J., Paddington Brewery.—Ale and porter. 660
- 101 Hardie, John, Sydney.—Biscuits. 661
- 102 Layton, Fred., Grafton, Clarence river.—Castor oil. 662
- Textile Substances of Vegetable or Animal Origin.**
- 103 Hemmings, F. & W., Loma Loma, Fiji.—Cotton. 665
- 104 Ryder Bros., Mango Island, Fiji.—Cotton. 665
- 105 Hoff, Camille, Nakutakina, New Caledonia.—Cotton. 665
- 106 Moore, Charles, Botanic Gardens, Sydney.—Vegetable fibres of various kinds. 666
- 107 Rudder, E. W., Kempsey.—Fibre of gigantic nettle tree. 666
- 107a Cox, E. K.—Wool. 667
- 107b Cox, G. H.—Wool. 667
- 107c Cox, F. & A.—Wool. 667
- 107d Lamb & Roberts.—Wool. 667
- 107e Tindal, E. & A.—Wool. 667
- 107f Clive & Hamilton.—Wool. 667
- 107g Bettington, J. B.—Wool. 667
- 107h Loder, Andrew.—Wool. 667
- 107i King, P. G.—Wool. 667
- 108 Ramsay, D., Sydney.—Wool. 667
- 108a Shanahan & Jennings.—Wool. 667
- 108b Henty & Balfour.—Wool. 667
- 108c Learmonth, L.—Wool. 667
- 108d White, F. R.—Wool. 667
- 108e Caughey, S. M.—Wool. 667
- 108f Campbell, D. H.—Wool. 667
- 108g Wilson, A.—Wool. 667
- 108h Loder, A.—Wool. 667
- 108i Lethbridge, G. L.—Wool. 667
- 109 Lowe, A. H., Dynevor.—Wool. 667
- 109a Hume, E. B.—Wool. 667
- 109b Bowman, E. & A.—Wool. 667
- 109c Brown, T., & Co.—Wool. 667
- 109d Gell, P. H.—Wool. 667
- 109e Gilbert, A. N.—Wool. 667
- 109f Macdonald, J. L.—Wool. 667
- 109g Allen, J.—Wool. 667
- 109h Brodribb, W. A.—Wool. 667
- 110 May, J. M., Randwick, near Sydney.—Silk materials from the grain to the manufacture, produced by the inmates of the Asylum for Destitute Children, Randwick. 668
- 111 Thorne, George, Sydney.—Cocoons and cards of eggs desiccated and pierced, grown at Claremont, Rose Bay, Sydney. 668
- Agricultural Engineering and Administration.**
- 112 Bell, H., Sydney.—Bonedust. 681
- 113 Berry, J. S., Botany.—Bonedust. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

VICTORIA.

(North of Nave, Columns 11 to 13.)

Chemical Manufactures, Ceramics, Furniture.

Chemical Manufactures.

- 1 Bosisto, Joseph, Richmond, Melbourne.—Chemical and pharmaceutical preparations obtained from the eucalyptus or gum trees of Australia, and other indigenous vegetation. 200
- 3 Hood & Co., Melbourne.—Chemical and pharmaceutical preparations. 200
- 4 Lewis & Whitty, Fitzroy.—Washing and baking powders, ball blue. 200
- 5 Stringer & Co., Melbourne.—Baking powder. 200
- 6 Sullivan, Joseph, Melbourne.—Poor man's filter; disinfectants, fluke specific and lick, hydrated silicate of aluminum. 200
- 7 Woodward, George, Kew.—Guano, deodorant, block of deodorized night-soil. 200
- 8 Pitts, Charles, & Son, Emerald Hill.—Neat's-foot and trotter oil. 201
- 8a Apollo Stearine Candle Co. (limited), Footscray.—Stearine and paraffin candles, and products. 201
- 9 Kitchen & Sons, Melbourne.—Stearine and large carriage candles. 201
- 10 Borthwick, Alex., Melbourne.—Varnishes, anti-fouling composition for ships' bottoms, enameled cast iron pedestal pillars, anti-corrosive paint. 202
- 11 Bowman, John S., Melbourne.—Colonial crayons. 202
- 12 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Crayons. 202
- 13 Lewis & Whitty, Melbourne.—Blackening. 202
- 14 Hogg, S. P., & Co., Melbourne.—Curry powder. 203
- 15 Lewis & Whitty, Fitzroy.—Hair oil, essences, curry powder. 203
- 16 Perry, Hunter, & Co., Sandhurst.—Safety fuse. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 17 Birmingham & Lacy, Brunswick.—Red building and white pressed and moulded bricks. 206
- 18 Nolan, Luke, Brunswick.
 - a Stoneware drain pipes. 206
 - b Bronze vases, stone porous jugs, patent damp-proof for floor ventilation. 210
- 19 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
 - a Fire-clay crucibles. 207
 - b Encaustic tiles, trusses, vases, etc. 208
 - c Earthenware and pottery. 210
 - d Glassware. 216

- 20 Adams, R. T., Melbourne.—Filters. 210
- 21 Bendigo Pottery Co., Sandhurst.—Earthenware worm for still. 210
- 23 Ferguson & Urie, Melbourne.—Stained glass for windows. 214
- 24 Gledhill, Melbourne.—Glass bottles. 215
- 25 Melbourne Glass Bottle Works Co., Emerald Hill.—Glass bottles. 215
- 26 Mount & Co., Emerald Hill.—Glassware. 215

Furniture, etc.

- 27 Alcock & Co., Melbourne.—Blackwood billiard table with appliances; console table. 217
- 28 Carr & Sons, Melbourne.—Window blinds, window sash, with Venetian shutters, etc. 217
- 29 Davis, J., Richmond.—Window sash. 217
- 30 Hodgson Bros., Sandhurst.—Self-acting Venetian blind, spring roller blind. 217
- 31 McEwan, James, Melbourne.—Sideboard. 217
- 32 Muschialli, Lewis, Melbourne.—Pier glass, console table. 217
- 33 Baker, John, Emerald Hill.—Safety steps. 220
- 34 Wiegmann, August, Melbourne.—Basketware cradles, perambulators, chairs and flower stands, baskets. 221
- 35 Walker, A. R., Melbourne.—Gas cooking stoves. 222
- 36 Shaw, Alfred, & Co., Melbourne.—Millet brooms and whisks. 224
- 37 Guthrie, G. D., Epsom, Sandhurst.—Collection of pottery ware for household use, etc. 224
- 38 Bogle, Andrew, & Co., Melbourne.—Boot and shoe brushing and cutters' polishing and sharpening machine. 224
- 39 Draper & Sons, Melbourne.—Earth-closets and fittings. 226

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 40 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Flax, ropes, lines, twines, etc. 225
- 41 Donaghy, Michael, Geelong.—Ropes and lines. 225

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Fabrics, Paper, Weapons, Vehicles, Art.

- 42 Miller, James, & Co., Melbourne.—
Ropes and lines. 229
- 43 McPherson, Thomas, Melbourne.—
Corn sacks, wool packs, and sugar bag-
ging. 229

Woven and Felted Goods of Wool, etc.

- 44 Barwon Woolen Mill Co., Geelong.
a Tweeds. 235
b Blankets. 237
- 45 Gray, Alexander, & Co., Albion Wool-
en Mills, Geelong.—Plain and fancy
tweeds. 235
- 46 Ballarat Woolen Co., Ballarat.—
Shawls, tweeds, blankets. 237
- 47 Director of Botanic Gardens, Mel-
bourne.—Dyed woolen cloth and silk. 238
- 48 Robertson, John, Melbourne.—Dyed
Angora goat's fleece. 240
- 49 Zoological and Acclimatization So-
ciety, Melbourne.—Angora goat's hair. 240

Silk and Silk Fabrics.

- 50 Commissioners for Victoria, for the
Philadelphia Exhibition, Melbourne.—
Silk cocoons from the Acclimatization
Society, Victoria, and Mrs. Bladen Neill;
cultivated silk, in cocoons and hanks,
also bleached, dyed, and worked upon
llama. 242
- 51 Timbrell, Ann, Collingwood.
a Cocoons produced by silkworms from
Japan, France, Italy, and Greece. 242
b Silk (raw material in hank). 243
c Victorian silk, worked on Brussels net. 246
- 52 Victoria Ladies' Sericulture Co.
(limited), Castlemaine.—Silk, desiccated
and pierced cocoons. 242

Clothing, Jewelry, and Ornaments,
Traveling Equipments.

- 53 Ford Brothers, Melbourne.
a Pith hats, in felt, silk, merino, etc. 251
b Pith sunshades for horses. 254
- 54 Inspector-General of Penal Depart-
ment, Melbourne.—Boots and shoes. 251
- 55 Rosier, John, Melbourne.—Boots
and shoes. 251
- 56 Commissioners for Victoria, for the
Philadelphia Exhibition, Melbourne.
a Myall pipes; rouleau boxes of myall
wood. 254
b Address-case of inlaid leather. 255
- 57 De Richelieu, Madam F., Windsor.—
Ornaments made from fish scales, etc. 254
- 58 Pausacker, Evans, & Co., Mel-
bourne.—Registered edge, solid leather
portmanteaus. 255

Paper, Blank Books, Stationery.

- 59 Botanic Gardens, Director of, Mel-
bourne.—Paper made from various barks,
stems, and stems and leaves. 260
- 60 Ramsden, Samuel, Melbourne.—
Various grades of paper, including car-
tridge, printing, and wrapping paper. 260

Weapons, etc.

- 61 Commissioners for Victoria, for the
Philadelphia Exhibition, Melbourne.
b Aboriginal weapons, native axe. 268

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Medicine, Surgery, Prothesis.

- 62 Stanway, W., South Yarra.—Models
of chairs for invalids. 279

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 63 Danks, John, Melbourne.—Valves,
cocks, lubricators, injectors, etc. 284
- 64 McIlwraith, John, Melbourne.—Gas
pipe and tin tube. 284

Fabrics of Vegetable, Animal, or
Mineral Materials.

- 64a Commissioners for Victoria, for
the Philadelphia Exhibition, Melbourne.
—Victorian and English ensigns. 288

Carriages, Vehicles, and Accessories.

(For farm vehicles and railway carriages,
see Departments of Agriculture and Ma-
chinery.)

- 65 Stevenson & Elliott, Melbourne.—
Landau. 292
- 66 Bothwell, Wade, Melbourne.—Har-
ness, saddles, whips, etc. 296
- 67 Glenister, W. A., Geelong.—Axles,
Colling's crank, etc. 296
- 68 Stoneman, Alfred, Richmond.—Car-
riage springs. 296

Sculpture.

- 69 Commissioners for Victoria, for the
Philadelphia Exhibition, Melbourne.—
Medals of the Victorian Intercolonial Ex-
hibition, 1875; seals of the Melbourne
Public Library, University, and Exhi-
bition of 1862. 402

Painting.

- 70 Campbell, O. R., Windsor.—Cross-
ing the Plains. 410
- 71 Commissioners for Victoria, for the
Philadelphia Exhibition, Melbourne.—
Heraldic painting on panels. 410
- 72 Curtis, J. W., Melbourne.—Track off
the Point Nepean road. 41c
- 73 Guerard, E. Von, Melbourne.—Pul-
pitt rock, Phillip Island, Ballarat, in
1873. 41c
- 74 Johnston, H. J., Melbourne.—Sum-
mer Sunset. 41c
- 75 Whitehead, Isaac, Melbourne.—
Dandenong State Forest. 41

Engraving and Lithographing.

- 76 Bowman, John S., Melbourne.
a "The Knob in the Alps," crayon, Miss
Bowman. 420
b "In the Alps," crayon, Miss Adams.
c "Fall from the Omeo Plains," crayon.
d "Valley in North Gippsland," crayon.
e "A Pool in the Otway Ranges," crayon,
F. Shaw. 420
f "Bushy Park," crayon. 420

- 77 Commissioners for Victoria, for the
Philadelphia Exhibition, Melbourne.—
Lithographs of fossils, roots, and seeds. 47

Art, Machinery, Agriculture.

Photography.

- 78 Ararat, Shire Council of, Ararat.—Photographic views and statistics of the shire. 430
- 79 Batchelder & Co., Melbourne.—Photographs of persons born in the colony of Victoria. 430
- 80 Bock, Henry, Gippsland.—Photographs of Victorian native flowers. 430
- 81 Chuck, T. F., Melbourne.—Photographs of persons born in the colony of Victoria. 430
- 82 Colac, Shire Council of, Colac.—Photographic views of the district. 430
- 83 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
 a Photographic views of scenery, public and private buildings, cattle, etc. 430
 b Biographical charts of the schools of Venice and the Venetian state schools. 432
- 84 Creswick, Borough Council of, Creswick.—Photographic views and statistics of the borough. 430
- 85 Darebin Shire, Council of, East Bourke.—Photographic views and statistics of the shire. 430
- 86 Echuca, Borough Council of, Echuca.—Photographic views and statistics. 430
- 87 Emerald Hill, Borough Council of, Emerald Hill.—Photographic views. 430
- 88 Hotham, Town Council of, Hotham.—Photographic views and statistics of the town. 430
- 89 Johnstone, O'Shannessy & Co., Melbourne.—Photographs of persons born in the colony of Victoria, photographs colored in oil. 430
- 90 McDonald, D., St. Kilda.—Photographic views. 430
- 92 Phoenix Foundry Co. (limited), Ballarat.—Photograph of locomotives, engine, and tender, manufactured for the Victorian government. 430
- 93 Prahran, Town Council of, Prahran.—Photographic views and statistics of the town. 430
- 94 Robertson Brothers, Colac.—Colored photographs of cattle, bred by exhibitors. 430
- 95 Sandhurst, City of, Sandhurst.—Photographic views and statistics of the city. 430
- 96 Stewart & Co., Melbourne.—Photographs of persons born in the colony of Victoria. 430
- 97 Surveyor General of Victoria, Melbourne.—Photographic views of botanical and other gardens. 430
- 98 Wangaratta, Shire Council of, Wangaratta.—Photographic views and statistics of the shire. 430
- 99 Willett, G., Ballarat.—Colored photographs. 430
- 100 Wilson, Sir Samuel, Ercildoun.—Photographs: team of Hereford bullocks, bred by himself; prize sheep; his residence, etc. 430
- 101 Melbourne, City of.—Photographic views of city. 430

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-18.

Industrial and Architectural Designs, etc.

- 102 Dowling, William, Emerald Hill.—Centre flowers, trusses. 442
- 103 Heathcote, T. S., Carlton.—Painted panels. 442
- 104 Murphy, Edward, Sandridge-road.—Centre flowers, and ventilators, ornamental chimney cap. 442
- 105 Patterson Brothers, Carlton.—Tables of imitation wood and marble. 442
- 106 Pepper, George, Windsor.—Plasterers' models, ceiling and wall ventilators. 442

Machines, Tools, etc., of Mining, Chemistry, etc.

- 107 Morrison, L. K., Melbourne.—Abyssinian tube-wells and pumps, with boring apparatus. 501
- 108 White, David, Stawell.—Safety hook, to prevent accidents from overwinding in mining claims. 503
- 109 O'Malley, Edmund, Melbourne.—Ventilating safety cage, for mines. 504
- 110 Harkness, A., & Co., Victoria Foundry, Sandhurst.—Disk, fitted on screwed stamper shank, and showing principle; cam or wiper. 505
- 111 Perry, Davis, & Co., Sandhurst.—Stamper gratings. 505

Railway Plant, Rolling Stock, etc.

- 112 Cornish & Co., Melbourne.—Seats for railway carriages. 571
- 113 Stoneman, Edward, Richmond.—Railway truck spring. 573

Aerial, Pneumatic, and Water Transportation.

- 114 Cornish & Co., Melbourne.—Life-preserving buoys, mattresses, belts, rafts, etc.; seats, couches, and mattresses for ships. 590

Arboriculture and Forest Products.

- 115 Bass River Steam Saw-Mills, Bass river.—Blue gum timber. 600
- 116 Director of Botanic Gardens, Melbourne.
 a Carpological collection; barks, polished woods, fibre and tow prepared from barks, leaves, and stems. 600
 b Resins, gums, oleo fat, and caoutchouc. 603
- 117 Lands and Agriculture, Department of, Melbourne.—Native woods. 600
- 118 Commissioners for Philadelphia Exhibition, Melbourne.
 a Boxes, paper knives, and tubs, made of Victoria woods. 601
 b Myall and grass-tree gum, rubber and rubber stamp. 603
- 119 Clark, John, & Sons, Melbourne.—Wattle bark. 602

Agricultural Products.

- 120 Taylor, John, Allanford.—Add-on wheat, grown at Murrumbidgee, near Warrnambool. 600

Agricultural, Animal, and Vegetable Products.

- 120^a Patience, John, Ichuca.—Purple straw wheat. 620
- 120^b Wright, Thomas Spencer, Rochester.—Purple straw wheat. 620
- 120^c Kelly, Mortimer, Bridgewater.—Wheat. 620
- 120^d Patterson, J. Matthew, Loddon.—Wheat. 620
- 121 St. Arnaud Pastoral & Agricultural Society, St. Arnaud.—Short oats, wheat, barley. 620
- 121^a O'Reilly, Thomas, Toolamba.—Wheat. 620
- 121^b Adams, John, Wahring.—Wheat. 620
- 121^c Smith, George, Ballard.—White Tuscan wheat. 620
- 122 Scott, James, Indigo, Chiltern.—Wheat. 620
- 123 Commissioners for Philadelphia Exhibition, Melbourne.
^a Collection of varieties of wheat and grass-tree plant. 620
^b Collection of beans. 621
- 124 O'Keefe, Andrew, Adelaide Vale, Clare Inn.—Purple-straw wheat. 620
- 125 Myring, Joseph, Campbell's Creek, Castlemaine.—Barley. 620
- 126 Adams, James, Wahring.—White Tuscan wheat. 620
- 127 Laidlay, John, Bundoora, Plenty-road.—Wheat. 620
- 128 McNair, Angus, Bellerine East.—New fodder-pea. 620
- 129 Stewart & Ferguson, Indigo, Chiltern.—Wheat. 620
- 130 Connor, James, Allansford.—Fox-tail oats, grown at Merunga, near Warrnambool. 620
- 131 Schmitt, Lewis, Mornington.—Wheat. 620
- 132 Buckley, Edward, Newbridge, Loddon.—Red-straw wheat from counties of Gladstone and Bendigo, oats. 620
- 133 Jack, John, Oxley Plains, Ovens District.—Frampton white wheat, grown on chocolate soil after English grass. 620
- 134 Northeastern Pastoral & Agricultural Society, Murchison.—Wheat grown by J. McNab, Tabilk. 620
- 134^a Catlin, James, Runnymede.—Purple-straw, white Tuscan and other wheats. 620
- 135 Moncrieff, John, Tabilk, Goulburn river.—Purple-straw and white wheat. 620
- 136 Gilmour, Andrew, Colomsky, Buangor.—Oats from parish of Ballyrogan. 620
- 136^a Ararat Flour Mill Co. (limited).—Prime miller's wheat. 620
- 137 Rossi, Thomas, Dry Diggings, near Daylesford.—Purple-straw wheat. 620
- 138 Polson, Angus, Chapman, Moyston.—English barley, Tartarian oats, purple-straw and white wheat. 620
- 139 West Bourke Pastoral & Agricultural Society, Romsey.—White Tuscan wheat, grown by Hon. T. F. Hamilton. 620
- 140 Aboriginal Mission Station, Coranderrk.—Hops. 623

- 141 McKensie, James F. & Co., Melbourne.—Coffee, chicory, cocoa, and chocolate made from Trinidad nuts; mustard, spices. 623

Land Animals.

- 142 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
^a Water fowl, stuffed by Chas. French. 635
^b Manna, with the insect producing it. 638
- 143 St. John, F., Melbourne.—Ducks, plover, grouse, quail, black swan, etc. 635
- 144 Grimwood, Thomas, Fern Tree Gully.—Quail, snipe, landrail. 635
- 145 Gaskell, Joseph, Melbourne.—Australian snipe. 635
- 146 Robertson, W. W., Richmond.—Australian native birds. 635
- 147 Gaskell, Joseph, Melbourne.—Wild animals. 637
- 148 Godfrey, F. R., Melbourne.—Wild animals. 637
- 149 McCoy, Prof., Melbourne University.—Wild animals, and black swan. 637
- 150 French, C., Melbourne.—Australian longicorns, buprestid, lepidoptera, etc. 638
- 151 Timbrell, Ann, Collingwood.—Japan silkworms, modeled in wax. 638

Water Animals, Fish Culture and Apparatus.

- 153 St. John, F., Melbourne.—Fish. 641

Animal and Vegetable Products.

- 154 Bird, George, Inkerman, Lyndhurst.—Cheese. 651
- 155 Pierce, G. G., Melbourne.—Cheese. 651
- 156 Riddle, J., Lancefield.—Cheese. 651
- 157 Clark, John, & Sons, Melbourne.—Leathers, skins, basils. 652
- 158 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Rugs made from skins of Victorian animals. 652
- 159 Fink, M., Geelong.—Skins. 652
- 160 Quinn, H. S., Richmond.—Dyed and white wool mats, kangaroo glove leathers. 652
- 161 Brearley Brothers, Geelong.—Sole leather. 652
- 162 Dunkley & McBride, Melbourne.—Sash lines, whip gut, gut lathe bands, sausage casings. 652
- 163 Pearse Brothers, Fremantle, Western Australia.—Hides, leather, skins. 652
- 164 Pitts, Charles, & Sons, Emerald Hill.—Glue. 652
- 165 Penal Department, Inspector-General of, Melbourne.—Leather. 652
- 166 Wallis & Co., Richmond.—Leather, goat skin mat. 652
Malt. 657
- 172 Bennett, T. K., Melbourne.—Preserved meats. 656
- 173 Director of Botanic Gardens, Melbourne.—Jam. 656

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Animal and Vegetable Products, Textile Substances.

- 174 Zorn, Edward, Clayton's-road, near Oakleigh.—Tomato and Oakleigh sauces. 656
- 175 Wright, Payne, & Co., South Yarra.—Fruit jams. 656
- 176 Watson & Paterson, Melbourne.—Hams, bacon, mess pork. 656
- 177 Western Meat Preserving Co., Colac.—Preserved meats. 656
- 178 Melbourne Meat Preserving Co., Melbourne.—Preserved meats. 656
- 179 Lyon, George, Beechworth.—Tomato sauce. 656
- 180 Grant, Mrs., Richmond.—Tomato sauce. 656
- 181 Comport, Henry, Cheltenham.—Tomato sauce. 656
- 182 Stringer & Co., Melbourne.—Mixed pickles, sauces, curry powder. 656
- 182a Boddy, Edward, Nagambie.—Flour. 657
- 182b Hood, F. & J., Melbourne.—Malt. 657
- 183 McKenzie, Jas. F., & Co., Melbourne.—Oatmeal, groats, brose meal. 657
- 183c Martin, P. J., Melbourne.—Malt. 657
- 184 Trouette & Blampied, Great Western, Ararat District.—Wines. 660
- 184d Myring, Joseph, Campbell's Creek, Castlemaine.—Malt. 657
- 185 Best, Joseph, Great Western, Ararat District.—Wine. 660
- 185e Perrin, William, jr., Richmond.—Malt. 657
- 186 Docker, F. G. & J. B., Wangaratta, Beechworth District.—Wine. 660
- 187 Evans, Henry, Beechworth District.—Wine. 660
- 188 Mellon, Francis, Dunolly, Castlemaine District.—Wines. 660
- 189 Botten, William, Eddington, Castlemaine District.—Wine. 660
- 190 Jung, Otto, Castlemaine, Castlemaine District.—Wines. 660
- 191 Schroeder, Castlemaine, Castlemaine District.—Wines. 660
- 192 Crippa, Fabrizio, Hepburn, Castlemaine District.—Wine. 663
- 193 Greer & Co., Echuca, Echuca District.—Wines. 660
- 194 Vettler, John, Echuca, Echuca District.—Wines. 660
- 195 Weber, Jacob, Geelong, Geelong District.—Wine. 660
- 196 Deppeler, Jacob, Gheringhap, Geelong District.—Wine. 660
- 197 Ritchie, John, Murgheboluc, Geelong District.—Wine. 660
- 198 Bear & Ford, Tabilk Vineyard, near Seymour, Goulburn District.—Wine. 660
- 199 Egli, F., Tabilk, Goulburn District.—Wine. 660
- 200 Schmitt, Franz, Berwick, Melbourne District.—Wine. 660
- 201 Francis, Charles, Sunbury, Melbourne District.—Wines. 660
- 202 St. Hubert's Vineyard Co., Yering, Melbourne District.—Wines. 660
- 203 Johnston, J. S., Craiglie Vineyard, Sunbury, Melbourne District.—Wines. 660
- 204 Maplestone, Charles, Ivanhoe Lodge, Heidelberg, Melbourne District.—Wines. 660
- 205 Brasche, Charles, Sunbury, Melbourne District.—Wine. 660
- 206 Snowden, E. G., Boroondara, Melbourne District.—Wine. 660
- 207 Smith, G. S., Wahgunyah, Melbourne District.—Wine. 660
- 208 Pohl, Carl, Strathfieldsaye, Sandhurst District.—Wines. 663
- 209 Bruhn, Albert, Strathfieldsaye, Sandhurst District.—Wines. 663
- 210 Fuchs, Adolph, Strathfieldsaye, Sandhurst District.—Wines. 660
- 211 Fischer, August, Shamrock Vineyard, Emu Creek, Strathfieldsaye, Sandhurst District.—Wines. 660
- 212 Shaw, F. K., Goornong, Sandhurst District.—Wine. 660
- 213 Grosse, Frederick, Strathfieldsaye, Sandhurst District.—Wines. 660
- 214 Grosse, Fred., Toorongo Vineyard, Bendigo, Sandhurst District.—Wine. 660
- 215 Greiffenhagen, Wm., Strathfieldsaye, Sandhurst District.—Wines. 660
- 216 Brown, H. J., Australian Distillery, Melbourne.—Geneva spirits of wine. 660
- 217 Fuller, Alfred, Kew.—Ale, stout. 660
- 218 Henelly, James, Melbourne.—Ale. 660
- 219 Latham, Edward, Carleton Brewery, Carleton.—Ale, porter. 660
- 220 Martin, P. J., Melbourne.—Ale. 660
- 221 Reed, Henry, & Co., South Yarra.—Vinegar. 660
- 222 Steward, James, Eaglehawk, Sandhurst.—Ale. 660
- 223 Treacy, John, & Co., Geelong.—Ale, stout. 660
- 224 Warrenheip Distillery Co., Ballarat.—Whisky, Geneva spirits of wine. 660
- 225 Guest, T. B., & Co., Melbourne.—Fancy biscuits. 661
- 226 Smith & Son, West Melbourne.—Biscuits. 661
- 227 Swallow & Ariell, Sandridge.—Biscuits. 661
- Textile Substances of Vegetable or Animal Origin.**
- 228 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Cotton. 665
- 229 Atkinson, Wm., Camperdown.—Teazles. 666
- 230 Longmire, Thomas, Kooroocheang, Smeaton.—Flax stalks and seeds. 666
- 231 McPherson, Thomas, & Co., Melbourne.—Jute. 666
- 232 Armstrong, Alex., Warramtnie, Shelford.—Wools. 667
- 233 Arnold, George, & Co., Melbourne.—Assorted wools grown by James Gibson, Cleveland, Tasmania; Wm. Gibson & Son, Scone, Tasmania; P. Russell, Lang Willi and Carnham, Victoria; Wm. Cumming, Mt. Pyans, Victoria; A. M. Campbell, Melaluka, Victoria; John

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Textile Substances, Agricultural Machinery, Fruits.

- Macvean, Mooloomoon, Victoria; Thos. Russell & Co., The Plains, Victoria; G. W. Thomson, Chalicum, Victoria; Thos. Millear, Green Vale, Victoria; Executors of late A. Russell, Mawalloch, Victoria; Wm. Lewis, Stoneleigh, Victoria; J. & S. Austin, Mount Pleasant, Victoria; and Wm. Murray, Brie Brie, Victoria. 667
- 234 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Wools; wool from S. Robertson; Geelong. 667
- 234a Cumming, Thomas F., Stoney Point. 667
- 235 Currie, John Lang, Larra, Derimallum.—Wools. 667
- 236 Degraives, C. & J., Coliban Park, Elphinstone.—Wool. 667
- 237 Elder, W. & N. G., Elder, Rook wood.—Wools. 667
- 238 Gilbert, Alfred N., Warwilla Station, Wanganilla, Deniliquin.—Wools. 667
- 239 Goldsbrough, R. & Co., Melbourne.—Assorted wools, grown by James Alexander, Woodhouse station; R. & J. Ramsey, Narrow Plains station; Carter Bros., Glenisla station; J. & H. Osborne, Momalong Plains; A. & H. McCulloch, and others. 667
- 240 Greeves, Edward G., Berrialllock, Skipton.—Wool. 667
- 241 Hastings, Cunningham, & Co., The Australian Wool Stores, Melbourne.—Fleeces of wool from the following breeders: H. Cattanaeh, Tellegura; C. W. Simson, Mundagal; Godfrey & Chambers, Penveney; F. L. Parker, Quiamong; Everett & Watson, Tchelery and Nyang; Hon. Wm. Lang, M. L. A., Wargam; Hon. Phillip Russell, M. L. A., Carnegham and Langi Willi; John L. Currie, Larra; Thomas Dowling & Sons, Jellalabad; executors of late A. Russell, Mawalloch; Wm. Lewis, Stoneleigh; Ewan McPherson, Binduck; Godfrey McKinnon, Goonambill; Russell & Shaw, Eli Elwah; Rutherford Brothers, Ulupna; Hon. Robert Simson, M. L. A., Langi Kal Kal; Nichol & Telford, Tarrawonga; Knight & Lydiard, Koorongah; Mount Battery Co., Mount Battery; Alfred Chenery, Delatite; Alexander Wilson, Mount Emu; J. G. Reeves, Footscray. 667
- 242 Henty, Edward, Portland.—Wools. 667
- 247 Reeves, Isaac G., Footscray, Melbourne.—Wool. 667
- 248 Russell, Thomas, Barunah Plains, Mount Hesse.—Wool. 667
- 249 Rutledge, William, Farnham Park, Warrnambool.—Fleeces. 667
- 250 Rutherford, Andrew, Como, Kensington, Geelong.—Wool. 667
- 251 Synnot, Monckton, Melbourne.—Wool. 667
- 252 Synnot, George, & Co., Geelong.—Wool. 667
- 253 Thomas, C. T., North Sandridge.—Dressed skin of pure Romney ewe, bred by R. Muldoon, Boos. 667
- 254 Timms Brothers, Mount Hesse, Beac.—Wools. 667
- 255 Watson, Alexander, Warribee.—Fleeces. 667

256 Wilson, Sir Samuel, Oakleigh Hall, East St. Kilda.—Wools and fleeces. 667

257 Wilson, John, Lismore.—Wool. 667

258 Howard, John, near Albury.—Sample cocoons of mulberry silk-worms, with wound silk in its natural colors; floss silk; Japanese and Italian grain; hanks of suffocated and pierced cocoons. 668

Machines, Implements, and Processes of Manufacture.

259 Lennon, Hugh, North Melbourne.—Double-furrow plow. 671

233 Bodington, Robert, Carlton.—Sheep support on rollers. 674

Ornamental Trees, Shrubs, and Flowers.

261 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Tree ferns from Dandenong State Forest and Mount Macedon; todea ferns from Mount Macedon. 707

262 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Fac-similes of specimens of fruit, the originals of which were selected during the past season, modeled and arranged by Thos. McMillan:

a Apples and pears from Josiah Trevestan, Ballarat; Chas. Draper, Hazelghen; H. U. Cole, Twyford; Robert Whatmough, Greensborough; Horticultural Society of Victoria; John Harbison, Essendon; John Smith & Sons, Riddell's Creek; T. C. Cole; King & Sons, Fyansford; Geelong and Western District Agricultural and Horticultural Society; W. L. Hunt, Malvern; Chas. Allen, jr., South Brighton; Thos. Christian, Mount Macedon; W. Lawford, Doncaster; J. Carson; J. Roberts; H. Boyce; Mr. Freike, Carisbrook; C. May, Sunbury; J. C. Cole, Richmond; J. D. Roberts, Hawthorne; Robt. Hepburn, Hawthorne; A. Stuart, Toorak; Geo. Kilroy, Caulfield; J. Weber, Geelong; Jas. Lang, Harcourt; Sir Redmond Barry; J. Banks, Flemington; Mr. James, Ballarat; Jos. Bosisto, Richmond; and Joseph Webster, Wahgunyah.

b Quinces from Sir Redmond Barry and J. Webber, Geelong.

c The medlar and the loquat.

d Peaches from C. Draper, R. Whatmough, W. Lawford, J. McDonald, G. & W. D. Agricultural and Horticultural Society.

e Nectarines from R. Whatmough and market.

f Apricots, plums, cherries, and olea europaea.

g Grapes, mulberries, figs, pomegranates, and oranges.

h Kau apples from Mr. Graham and the Melbourne Botanical Gardens.

i Gooseberries from Thos. Lang & Co. and F. Moss, Buninyong.

j Black, red, and white currants from Thos. Lang & Co.

k Raspberries from Henry Boyce.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Fruits, Flowers.

1 Almond, walnut, and hazel nuts.

m Strawberries.

n Tomatoes from Horticultural Society's Gardens; W. Chandler, Scoresby; and King & Son, Fyansford.

o Egg apple from H. J. Dines.

p Cape gooseberries and capsicums.

q Book collection of plants, shrubs, trees, and herbs. 709

263 Gaskell, Mrs., Melbourne.—Facsimiles of Victorian bush flowers. 709

SOUTH AUSTRALIA.

(North of Nave, Columns 10 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Chemicals, Manufactures, Clothing.

Minerals, Ores, Stone, Mining Products.

1 Clark, F., & Sons, Adelaide.—Iron ores. 100

2 Balhannah Mining Co., Adelaide.—Copper ores and bismuth. 100

3 North Yelta Mine, near Adelaide.—Copper ores. 100

4 Moonta, Wallaroo, and other mines, near Adelaide.—Copper ores. 100

5 Crabb, R. S., Adelaide.—Azurite and malachite from the Burra Burra mine, near Adelaide. 100

5a South Australian Commissioners.—Specimens of gold quartz from the northern territory. 100

5b Coosong Oil & Coal Co.—"Coosongik," a mineral caoutchouc. 100

COLLECTIVE EXHIBIT OF AURIFEROUS QUARTZ FROM THE NORTHERN TERRITORY OF SOUTH AUSTRALIA, BY THE COMMISSIONERS, FOR THE FOLLOWING OWNERS. 100

6 Ayliffe, I. H., W. Union Mine.

7 Becker, I., Yam Creek.

8 Brese & Starke, Extended Union Mine.

9 Caledonia New Amalgamated Co.

10 Golden Stream Claim.

11 Griffiths, W. K., South Union Mine.

12 Grove Hill Co.

13 Gunn, J. H., Britannia Reef.

14 Lewis, John, Pine Creek.

15 Bernardo, M., Pine Creek.

16 New Telegraph Co.

17 Sandy Creek Claim.

18 Shepperd, E., John Bull Reef.

19 Sandy Creek Puddling Co.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-42.

20 Tripp, J. P., Lady Alice & Union Reef.

21 Union Prospectors Co.

22 Whitelaw, E. H., Pine Creek.

23 Westcott, J. S., & Wisendunger, I., North Union Mine.

24 South Australian Commissioners, Adelaide.—Marble, sandstone, and slate from quarries near Adelaide. 102

Chemical Manufactures.

25 Barnard, George L., Adelaide.—Olive oil. 201

26 Davenport, Samuel, Adelaide.—Olive oil. 201

Yarns and Woven Goods of Vegetable or Mineral Materials.

27 Knight, J. G., Adelaide.

a String made from human hair. 239

b Native bag used by Lubras (women). 230

Clothing, Jewelry, and Ornaments, Traveling Equipments.

28 Steiner, Henry, Adelaide.

a Shell necklace, gold brooch and earrings; shell brooch and earrings set in gold. 253

b Silver-mounted emu vases and ornaments; silver oxidized metal-figured piano candlesticks. 254

29 Davenport, Samuel, Adelaide.—Emu eggs made up in imitation of jewelry. 253

30 Nitacke, W., Adelaide.—Copper vase, cross, and pipe; silver cups made from a dollar and a five-franc piece; teapot made from a shilling. 254

31 Knight, J. G., Adelaide.—Aboriginal ornaments from the northern territory of South Australia. 254

Manufactures, Education, Art, Agriculture.

- 32 Steiner, Henry, Adelaide.—Silver-mounted emu egg inksands. 254
 33 Wendt, J. M., Adelaide.—Silver-mounted emu egg inksand. 254
 34 South Australian Commissioners, Adelaide.—Skins of indigenous birds and animals of South Australia made into muffs, collarettes, etc. 236

Military and Naval Armaments, Ordnance, Fire Arms, and Hunting Apparatus.

- 35 Knight, J. G., Adelaide.—Aboriginal weapons from the northern territory of South Australia. 269

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 36 South Australian Commissioners, Adelaide.—Iron castings made from Adelaide ore. 283

Educational Systems, Methods, and Libraries.

- 37 South Australian Commission, Adelaide.—Herbarium, comprising specimens of all the known plants indigenous to South Australia, prepared by Dr. Schomburgk, director of the Botanic Gardens at Adelaide. 301
 38 Adelaide Museum, Adelaide, F. G. Waterhouse, curator.—Collection of birds, mammals, reptiles, skins of animals, and eggs of South Australia. 301

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 39 South Australian Commissioners, Adelaide.—Statistical records and maps relating to South Australia, compiled by the Surveyor-General. 335

Photography.

- 40 Scott, G. B., South Australia.—Photograph of northern territory of South Australia. 430
 41 South Australian Commission, Adelaide, South Australia.—Photographs descriptive of town, pastoral, and farming life in South Australia, the Adelaide Botanic Gardens, suburban views, and mining. 430
 42 Angus, G. H., Collingwood, near Adelaide.—Photographs of stud stock. 430

Arboriculture and Forest Products.

- 43 Hardy, Arthur, Mt. Lofty, near Adelaide.—Cork from tree raised from an acorn imported from Spain in 1864. 600
 44 Davenport, Samuel, Adelaide.—Woods, useful and ornamental. 600
 45 South Australian Commissioners, Adelaide
 a Woods, useful and ornamental, from the northern territory of South Australia, forwarded by J. B. Scott, government resident; woods from the neighborhood of Adelaide, collected by Mr. Mais, engineer in chief, and others. 600
 b Fungi, supplied by W. B. Hughes, northern territory of South Australia. 604
 c Red berries (seeds of the creeping licorice) and corkscrew pine seeds, from J. E. Kelsey and W. B. Hughes, northern territory of South Australia. 605

- 46 Wilke, H., & Co., Port Adelaide.—Barks for tanning; ground and chopped mimosa (black wattle), and ground acacia. 602
 47 Knight, J. G., Adelaide.—Bark from the northern territory of South Australia. 602

Pomology.

- 48 South Australian Commissioners, Adelaide.—Wax models of fruit taken from originals grown in South Australia. 610

Agricultural Products.

- 49 Carling, Thomas, Adelaide.—Wheat. 620
 50 Riggs, John, Adelaide.—Wheat. 620
 51 Young, C. B., Adelaide.—Wheat. 620
 52 South Australian Commissioners, Adelaide
 a Wheat, barley, oats, and rye. 620
 b Peas. 621
 c Linseed; hemp, rape, sunflower, prairie and rib grass seed. 624
 53 Kelsey, J. E., Mt. Gambier, Adelaide.—Hops, grown in volcanic soil. 623

Water Animals, Fish Culture and Apparatus.

- 54 Cardwell, Robert, Port Essington, northern territory of South Australia.—Trepang, cured at the fishery, Port Essington, northern territory of South Australia. 644

Animal and Vegetable Products.

- 55 Kemp, W., Adelaide.—Sheepskin mats. 652
 56 Angus, J. H., Collingwood, near Adelaide.—Sheepskins; skins of the spotted emu. 652
 57 South Australian Commissioners, Adelaide
 a Dressed skins of the kangaroo, wallaby, and other indigenous animals; also, skins made up in designs. 652
 b Emu eggs. 653
 c Raisins, plums, figs, and currants. 656
 d Wines. 660
 58 Davenport, Samuel, Adelaide
 a Skins of native animals and birds. 652
 b Emu eggs. 653
 59 Bagot, E. M., Adelaide.—Extract of meat. 656
 60 Hardy, Thomas, Adelaide
 a Raisins and currants. 656
 b Wine. 660
 61 Murray, Alexander, near Adelaide.—Jams, jellies, and marmalades. 656
 61a McEwen, George, Adelaide.—Assorted jams. 656
 62 Dunn, John, & Co., Adelaide.—Flour. 657
 63 Magarey, Thomas, & Co., Adelaide.—Flour. 657
 64 Cowan, Thomas, & Co., West Adelaide.—Flour. 657
 65 Gilbert, Joseph, Pewsey Vale, Adelaide.—Wine. 657

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Wines, Textiles.

- 66 Clark & Crompton, Adelaide.—
Wines. 660
- 67 Richman, J. W., Watervale.—Wines.
660
- 68 Quick, H. C., Marden, Adelaide.—
Wines. 660
- 69 Ross, R. D., Highercombe, Ade-
laide.—Wines. 660
- 70 Kaines, John H., Adelaide.—
Wines. 660
- 71 Auld, Patrick, Magill, Adelaide.—
Wines. 660
- 72 Barnard, G. L., Adelaide.—
Wines. 660
- 73 Hornabrook, C. A., Adelaide.—
Wines. 660
- 74 White, George, Rosefield, Adelaide.
—Wines. 660
- 75 Baker, Isabella, Morialta, Adelaide.
—Wines. 660
- 76 Gillard, Joseph, Adelaide.—
Wines. 660
- 77 Ind, G. F., Paradise, Adelaide.—
Wines. 660
- 78 Foote, Henry, Adelaide.—Wines. 660
- 79 Holbrook, J. D., Adelaide.—
Wines. 660
- 80 Kelly, Dr., Tintara, Adelaide.—
Wines. 660
- 81 Salter, W., & Son, Saltram, Ade-
laide.—Wines. 660
- 82 Davenport, Samuel, Beaumont, Ade-
laide.—Wines. 660
- 83 Martin, James, Gawler, Adelaide.—
Wines. 660
- 83^a Young, C. B., Adelaide.—Wine. 660
- 84 Thornber, Unley, Adelaide.—
Wines. 660
- 85 Wright, E. W., Horne Park, Ade-
laide.—Wines. 660
- 86 Bickford, A. M., & Sons, Adelaide.
—Bitters, quinine wine, and lime-juice cor-
dial. 660
- 87 Davis, F. C., Adelaide.—Bitters and
cordials. 660
- 88 Nitschke, W., Adelaide.—Cordials
and liquors. 660
- Textile Substances of Vegetable or
Animal Origin.**
- 89 Angas, J. H., Collingrove, Adelaide.
—Wool. 667
- 90 Keynes, Joseph, Keynton, Adelaide.
—Wool. 667
- 91 Murray, John, Murrayvale, Ade-
laide.—Wool. 667
- 92 Graham, Thomas, Adelaide.—
Wool. 667
- 93 Browne, W. J., Moorak, Adelaide.
—Wool. 667
- 94 Hayward, Armstrong & Co., Wo-
noka, Adelaide.—Wool. 667
- 94^a Crozier, W., Adelaide.—Wool. 667
- 95 McFarlane, Allan, Wellington
Lodge, Adelaide.—Wool. 667
- 95^a Price & Browne, Adelaide.—
Wool. 667
- 96 Wurm, Frederick, Adelaide.—Silk
and silk cocoons. 668
- Agricultural Engineering and Ad-
ministration.**
- 97 Dalwood, W. F., Adelaide.—Gua-
no from Browse Island, off west coast of
Australia. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CAPE OF GOOD HOPE.

(South of North Aisle, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education and Science.

Minerals, Ores, Stone, Mining Products.

- 1 Cape Copper Mining Co. (limited), Cape Town.—Copper ores from Ookiep, Spectakel, Narrap, Karolusburg, and Kilderman mines, Little Namaqualand. 100
- 2 Bright, H. C. R., Mowbray, near Cape Town.—Copper ores and collection of minerals. 100
- 2a Muskett, E. B.—Galena from Banghock mine, Hope Town division. 100
- 3 Dickson, W. W., Cape Town.—Black oxide of manganese, from Hercules mine. 100
- 4 Stonestreet, Samuel, Kimberly Diamond Fields.—Diamonds and associated rocks. 100
- 5 Vice, G., Stormbergen. 100
- a Saltpetre from the Stormbergen. 100
- b Coal from the Stormbergen. 101
- 6 Wilson, A., Gas Works, Cape Town.—South African coals, cokes, and ashes. 101

Metallurgical Products.

- 7 Cape Copper Mining Co. (limited), Cape Town.—Copper. 111

Chemical Manufactures.

- 8 Smithers, J. & G., Cape Town.—Soaps. 201

Furniture and Objects of General Use in Construction and in Dwellings.

- 9 Moulton, R., Swellendam.—Work-box constructed of South African woods. 217
- 10 Lesar, W., Cape Town.—Table constructed of various colonial timbers. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 10a Cawood, Hon. S., Grahamstown.—Cotton table cloth. 230

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 11 Perry, Mrs., Cape Town.—Melon seed necklaces, bracelets, etc. 253
- 12 Gladwin, J. P., Kafirland.—Hair of Pandomise, surmounted by ring of Euphorbia jap; ivory earrings of Pandomise baboon skin; dress of witch doctor. 253

- 13 Local Committee, Cape of Good Hope.

- a Native articles of dress—necklaces, armlets, earrings, etc. 253
- b Native aprons, head-dress, etc. 254

- 14 Ayliff, Mrs., Grahamstown.—Skeletized flowers. 254

Weapons, etc.

- 15 Local Committee of Cape of Good Hope.—Knobe klerie of rhinoceros horn. 268

- 16 Vigors, P., Cape Town.—Native weapons, Kafirassega's, Bushman axe. 268

Medicine, Surgery, Prothesis.

- 17 Aurret, W. H., Paarl.—Vegetable drugs and medicines. 272

- 18 Barkly, Sir H., Governor of Cape Colony.—Bitter barks used by Kafir doctors in fever cases. 272

Fabrics of Vegetable, Animal, or Mineral Materials.

- 19 Local Committee of Cape of Good Hope.—Kafir beer and milk pots, Kafir and Basuto baskets. 289

Educational Systems, Methods, and Libraries.

- 20 Solomon, C., Cape Town.—Map of South Africa. 300

- 23 Solomon, Saul, & Co., Cape Town.—Specimens of bookbinding. 306

- 24 Local Committee of Cape of Good Hope.—Catalogue of South African Public and Sir G. Grey's libraries; University calendar; reports of South African Museum, Public Library, and Botanic Gardens; Dr. Bleek's Bushman Researches. 306

- 25 Jutta, J. C., & Co., Cape Town.—Books. 306

- 26 Mabile, A., Morija, Basutoland.—Books printed, bound, and published at Morija Mission Station, Basutoland. 306

- 27 Stewart, G., Lovedale, Kafirland.—Books printed, bound, and published at the Lovedale Kafir Mission Institution. 306

Engineering, Architecture, Maps, etc.

- 28 Local Committee of Cape of Good Hope.—Models of harbor works and dry docks at Cape Town. 31

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Art, Agricultural, Animal, and Vegetable Products.

- 29 Dunn, E. I., Cape Town.—Geological sketch map of Cape Colony. 335
- 29a Coates, H. C., Commissioner, Philadelphia, Pa.—Photograph of city of Cape Town. 335
- 29b Ayliff, Reuben, Grahamstown.—Photographs of Cape Town, harbor works, etc. 335

Paintings.

- 30 Hermann, W., Cape Town.—Oil paintings. 410
- a View in Knysna Forest, Cape Colony.
- b View of Three Anchor Bay, near Cape Town.
- 31 Coppen, F., Cape Town.—Water color sketches. 411
- a Sketch of Hangklip, a spur of the Stormbergen, Queenstown division.
- b Sketch of the Mac Mac Falls, Lydenburg gold fields, South African Republic.
- 32 Hays, Miss Anna, Cape Town.—Water color sketch of the native population of Cape Town. 411
- 33 Hermann, W., Cape Town.—Six water color sketches of colonial scenery. 411
- 34 Thwaits, Miss F. C., Cape Town.—Six water color drawings of indigenous Cape flowers. 411

Engraving and Lithography.

- 35a Bruton, C. I., Cape Town.—Photographs. 430
- a Views in Cape Town.
- b View of Kloof Lodge, near Cape Town.
- c Views of scenery around Cape Town.
- 35b Barnard, S. B., Cape Town.—Photographs of Cape Town, natives, etc., in a book. 430
- 35c Fenneysey, C. D., George.—Photographs of colonial scenery. 430

Arboriculture and Forest Products.

- 36 Carson, E. J., Ookiep, Namaqualand.—Ebony. 601
- 37 Holland, B. H., Alexandria, Cape Colony.—Specimens of timber from the Alexandria crown forests, with articles made from various woods. 601
- 38 Mossop & Garland, Cape Town.—Barks in the rough and ground. 602
- 39 Smithers, J. & G., Cape Town.—Vegetable wax. 603
- 40 Dale, Dr., Cape Town.—Vegetable wax. 603

Agricultural Products.

- 41 Barry, Arnold & Co., Cape Town.—Wheat. 620
- 42 Myburgh, N., Meerlust, Eerste river.—Wheat. 620
- 43 Barry & Herdon, Mossel Bay.—Aloes. 623
- 44 Barry & Nephews, Cape Town.—Aloes. 623
- 45 Jongh, S. J. de, Cape Town.—Snuff. 623
- 46 Powrie, E., Mossel Bay.—Leaf tobacco and snuff. 623

Land Animals.

- 46a Coates, H. C., Commissioner, Philadelphia, Pa.—King penguin. 635
- 47 Gibbon, J. M., Cape Town.—Cochineal, grown and dried in the Botanic Gardens, Cape Town. 638

Water Animals, Fish Culture and Apparatus.

- 48 Merriman, John, Cape Town.—Preserved crayfish from Table Bay. 643
- 49 Moodie, D., Swellendam.—Pearl oyster shells from the south coast of the colony. 645

Animal and Vegetable Products.

- 50 Dier & Diets, Port Elizabeth.—Skins. 652
- 50a Benningfield & Son, Natal.—Elephant tusks. 652
- 51 Mossop & Garland, Cape Town.—Leather. 652
- 52 Local Committee, Cape of Good Hope.—Robe of skins of the blackbacked jackal and avar wolf. 652
- 53 Dickson, W. W., Cape Town.—Skins of the lion and cheetah or hunting leopard. 652
- 53a Coates, H. C., Commissioner, Philadelphia, Pa.
- a Pair of horns and head. 652
- b Ostrich eggs. 653
- 54 Vigers, P., Cape Town.—Lion and leopard skins, head of a leopard, antelope and rhinoceros horns. 652
- 54a Clipp, G. W.—Pair of horns. 652
- 55 Local Committee of Cape of Good Hope.—Ostrich feathers and eggs. 653
- 56 Douglass, A., Grahamstown.—Ostrich incubator, with stuffed ostriches and eggs. 653
- 57 Powrie, E., Mossel Bay.—Beeswax. 654
- 58 Barry & Nephews, Cape Town.—Beeswax. 654
- 59 Toit, A. L. du, Rondebosch.—Grapes in brandy. 656
- 59a Volsteedt, P. J., Cape Town.—Preserved lemons, citrons, nartjes, bitter oranges, melons, and Cape gooseberries. 656
- 60 Merwe, J. H. van der, Robertson.—Grapes in brandy. 656
- 60a Merriman, John, Cape Town.—Preserved tomatoes and Cape gooseberries. 656
- 61 Falck, J. A. H., Montagu.—Peaches in brandy. 656
- 62 Clear, E., Cape Town.—Wheat flour. 657
- 63 Letterstedt & Co., Cape Town.—Wheat flour. 657
- 64 Barry, Arnold & Co., Cape Town.—Wheat flour. 657
- 65 Heydenrych, B. G. P., Cape Town.—Starch from wheat flour. 658
- 74 Ryn, J. H. van, Cape Town.—Portac, red, and white wines, brandy. 66a

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-45.

Wines, Textiles, Flower Work.

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|---|---|
| <p>75 Renen, S. van, & Co., High Constantia.—Red and white wines. 660</p> <p>75^a Cloete Brothers, Constantia.—Red and white wines. 660</p> <p>76 Anderson & Murison, Cape Town.—Pontac, pale, and golden sherry wines. 660</p> <p>76^a Cloete, H., Bellevue, Constantia.—Red and white wines. 660</p> <p>77 Green, E. K., Cape Town.—Red, white, and sherry wines. 660</p> <p>78 Collison, H. C., Cape Town.—Sherry, Madeira, Pontac, and Constantia wines. 660</p> <p>78^a Cloete, J. P., Groot Constantia.—Red and white wines. 660</p> <p>79 Joubert, W. A., Stellenbosch.—Dry white wine. 660</p> <p>80 Paarl Wine and Brandy Co., Paarl.—Red and white wines. 660</p> <p>81 Rosenberg, S., Cape Town.—Brandy. 660</p> <p>82 Barry & Nephews, Cape Town.—Brandy. 660</p> <p>83 Collison, H. C., Cape Town.—Cognac. 660</p> <p>84 Hauf, Dr., Robertson.—Brandy. 660</p> <p>85 Marais, H. H., Robertson.—Cape sherry wine and Congo brandy. 660</p> <p>86 Villiers, A. J. J. de, Cape Town.—Sherry, port, and red wines. 660</p> | <p>87 Villiers, A. B. de, Paarl.—Red and white wines. 660</p> <p>Textile Substances of Vegetable or Animal Origin.</p> <p>88 Cawood, Hon. S., Grahamstown.—Cotton. 665</p> <p>89 Grewar, John W., Uitenhage.—Wool. 667</p> <p>90 Priest, W., Graff Reinet.—Wool. 667</p> <p>91 Rubidge, C., Graff Reinet.—Wool. 667</p> <p>92 Stewart, A. C., Port Elizabeth.—Wool. 667</p> <p>93 Court, P. W., Port Elizabeth.—Wool. 667</p> <p>94 Barry & Nephews, Cape Town.—Wool. 667</p> <p>95 Barry, Arnold, & Co., Cape Town.—Wool. 667</p> <p>96 Dier & Diets, Port Elizabeth.—Wool. 667</p> <p>97 Stewart, A. C., & Co., Port Elizabeth.—Angora hair. 669</p> <p>Ornamental Trees, Shrubs, and Flowers.</p> <p>98 Villiers, Miss de, Fransche Hoek.—Articles made of everlasting flowers. 709</p> <p>99 Smuts, Miss G., Cape Town.—Articles made of everlasting flowers. 909</p> |
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JAMAICA.

(North of Nave, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Chemicals, Woven Goods, Clothing.

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| <p>Chemical Manufactures.</p> <p>1 Reynolds, John N.—Salt. 200</p> <p>2 Frith & Murphy.—Salt. 200</p> <p>3 Grant, Charles. 200</p> <p>4 Bisulphate of lime. 200</p> <p>5 Chewstick powder and odontine. 203</p> <p>4 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Essential oils. 203</p> <p>5 Auvray, P. E.—Odontine. 203</p> <p>Yarns and Woven Goods of Vegetable or Mineral Materials.</p> <p>6 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Palm and plantain leaf mats. 229</p> | <p>Clothing, Jewelry, and Ornaments, Traveling Equipments.</p> <p>7 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government. 251</p> <p>a Palm leaf hats. 251</p> <p>b Baskets and fans from leaves; shell baskets; walking sticks; bamboo whip; tortoise shell combs, necklaces; napkin rings and egg cups; doilies and fans made of lace bark. 254</p> <p>7^a Nash, Mrs. 251</p> <p>a Hats made of dagger plant, lace bark, and strainer fibre. 251</p> <p>b Dagger plant and lace bark ornaments, comprising fans, flowers, baskets, etc.; earrings and brooch made of lobster shell. 254</p> <p>8 Brooks, Mrs. G.—Doilies and fans made from lace bark, etc. 2</p> |
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- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4*

Manufactures, Agricultural, Animal, Vegetable Products.

- 8a Reid, William.—Cocoanut Shell Ornaments; walking sticks, etc. 254

Paper, Blank Books, and Stationery.

- 9 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government. 258
 a Rulers. 260
 b Paper stock.

Medicine, Surgery, Prothesis.

- 10 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Cinchona barks, jalap, sen-na, aloes, etc. 272

Hardware, Edge Tools, Cutlery, and Metallic Products

- 11 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Razor strops made from stems of plants. 281

Fabrics of Vegetable or Mineral Materials.

- 12 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
 a Brushes from the penitentiary. 286
 b Ropes from sisal hemp; coir; wild cotton, cocoanut, etc. 287
 c Bamboo baskets. 289

Carriages, Vehicles, and Accessories.

- 13 Brass, John, & Son.—Carriage harness and riding saddle. 296

Arboriculture and Forest Products.

- 14 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
 a Cedar and juniper shingles; lancewood, etc., for carriage building; cashaw, etc., for railway sleepers; pimento leaves, juniper wood, etc., for making perfumery. 600
 b Mahogany, cedar, bullet tree, brazilletto, lignum vitae, ebony, satinwood, rosewood, etc. 601
 c Logwood, fustic, annatto, turmeric, etc.; divi-divi, mangrove, catechu, guanga, etc. 602
 d Dried ferns. 604
 15 Pantrepant Estate.—Lace bark. 600
 16a Fisher.—Concrete for tanning. 602

Agricultural Products.

- 16 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
 a Peas and beans. 621
 b Ginger, pimento berries, nutmegs, vanilla, cayenne pepper, etc.; tobacco, tea, cocoa, and chocolate; coffees from the following parties, John McLean, Francis Chalmer, John Davidson, Mrs. Macclaverty, Mrs. Lascelles, Dr. Stephens, James Harrison, Ernest Elliott, and Geo. Henderson. 623

- 16a Thompson & Weitzmann.—Tobacco. 623
 16b Espent, W. B.—Cigars. 623
 17 Soutar & Co.—Tobacco and cigars. 623
 17a Major, Dr.—Nutmegs. 623
 18 Richards, W. S.—Coffee. 623

Animal and Vegetable Products.

- 18a Fisher.—Leather. 652
 19 Grant, Charles.—Beeswax. 654
 20 Brass, John, & Son.—Honey and beeswax. 654
 20a Fegan.—Bleached wax. 654
 21 Auvray, P. E.—Bleached wax. 654
 22 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
 a Candied fruits and preserves; pickles, etc.; fruits preserved in alcohol; meal made from plantains, bananas, cassava, bread, and other fruits. 656
 b Corn, rice, and flour. 657
 c Starch, arrowroot, etc. 658
 d Sugars from the following parties: W. S. Richards, Albion estate and Constant Spring estate; Louis Verley, Mona estate; Ernest Elliott, Bog estate; James Harvey, Hillside estate; Joseph Reid, Caymannas estate, and J. McPhail. 659
 e Rums from the following parties: David Galloway, Vale Royal estate; William Vickers, Frome, and other estates; M. C. Morgan, Appleton estate; James Harrison, Hordley and other estates; Plato Elphick, Belvidere estate; W. S. Richards, Hope-well estate; Ernest Elliott, Bog and other estates; Louis Verley, Mona estate; C. W. Steer, Blenheim estate; F. Hall, Mexico estate; James Harvey, Hillside estate; Joseph Reid, Camanas estate; J. Wray & Nephew, George J. Peynado, Alberga & Mitchell. 660
 f Cocoanut, castor, groundnut, and other oils. 662
 22a Espent, W. B.—Rum. 660
 23 Gadpaille, Charles.—Rum. 660
 23a Wray, J., & Nephew.—Orange and ginger wine, pimento dram, lime-juice, etc. 660
 24 Melville, James.—Rum and Falerniac wine. 660
 25 Desnoes, P., & Son.—Rum, ginger cordial, orange wine, pimento dram, etc. 661
 25a Alberga & Mitchell.—Orange and ginger wine, pimento dram, chutney, etc. 660
 26 Nunes, Robert.—Rum. 660
 27 King, Alexander, & Co.—Rum and lime-juice. 660

Textile Substances of Vegetable or Animal Origin.

- 28 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
 a Wild cotton. 661
 b Sisal hemp, China grass, pineapple, coir, bamboo, mahoe trumpet tree, bastard cedar, and other fibres, etc. 662

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28

BAHAMAS.

(South of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural, Animal, Vegetable Products.

Chemical Manufactures.

- 1 Sargent, D., Inagua.—Specimens of salt and table salt. 200
 2 Meadows, John G., Inagua.—Salt and table salt. 200

Furniture and Objects of General Use in Construction and in Dwellings.

- 3 Robertson, Mrs. S. E.—Epergne. 218
 4 Dorsette, Thomas.—Dripstone for filtering water. 224

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 5 Minns, Albert C. J.—Necklaces, locket, pin and earrings, bracelets, solitaires and studs, vest button, spoon, and paper knife. 253
 6 Dupuch, Joseph.—Card tray, bread platters, and walking canes. 254
 7 Grant, Misses Julia and Mary.—Mimosa bean ornaments, card tray, watch cases, mats, and cross. 254
 8 Armbrister, James A.—Walking canes. 254
 9 Centennial Exhibition Committee, Nassau.—Mimosa bean card basket, bags, and bracelets, manufactured by Messrs. Jarrett, Nassau; tortoise back, cleaned and polished by J. R. Saunders, Nassau; palmetto fans and hats, manufactured by Mrs. John Taylor, Inagua. 254
 10 Evans, Ellen, G. E.—Shell cross, basket, and bridal wreath. 254
 11 Atwell, Misses.—Memorial wreath, cornucopia, brooches, and earrings, made of shells and fish scales. 254
 12 Symonett, Mrs. Matthew.—Palm tree, and watch stand. 254
 13 Wallace, Alexander C.—Walking canes. 254
 14 Eldon, Mrs. James.—Case containing orange tree. 254
 15 Garner, Mrs. Maria E.—Basket, fruit basket, bridal wreath, and sprays. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

- 16 Carrol, Richard E., Long Island.—Rope made of aloe fibre. 287
 17 Centennial Exhibition Committee, Nassau.—Palmetto rope. 287
 18 Knowles, Joseph A., Long Island.—
 a Rope and net made out of wild fig tree bark. 287
 b Palmetto baskets and mat. 289

Arboriculture and Forest Products.

- 19 Knowles, Joseph A., Long Island.—Wild fig tree bark. 600

20 Sawyer, R. H. & Co.

- a Stopper wood; ship's knees of sabicu wood; bark. 600
 b Mahogany, sabicu, satin, bull, cedar, and coconut woods. 601
 c Green ebony, brazilletto wood, and logwood. 602
 d Myrtleberry wax. 603

21 George, John S.

- a Specimens of bark and palmetto leaves, yellow pine and cedar woods. 600
 b Mahogany, sabicu, satin, stopper, orange, and lignum vitæ woods. 601
 c Logwood, brazilletto, and green ebony. 602
 d Wax made from myrtleberry. 603

22 Saunders, Samuel P.—Vegetable sponge. 604

Agricultural Products.

- 23 Boyd, Adam.—Tobacco and coffee, cultivated in New Providence. 623

Water Animals, Fish Culture and Apparatus.

- 24 Sawyer, R. H. & Co.—Conch shells. 645
 25 Treco, P. A.—Bahama shells, collected and arranged by J. R. Saunders. 645
 26 Saunders, Samuel P.—Small shells. 645
 27 George, John S.—Queen conch shells. 645

Animal and Vegetable Products.

- 28 Sawyer, R. H. & Co.—Sponges. 650
 29 George, John S.
 a Beeswax. 654
 b Arrowroot and cassava starch. 658
 30 Centennial Exhibition Committee, Nassau.—Assorted preserved fruits, assorted pickles; pimento manufactured of native fruits by Daphne Fife. 656

Textile Substances of Vegetable or Animal Origin.

- 31 Sawyer, R. H., & Co.—Specimens of cotton produced principally at Long Island. 665
 32 Saunders, S. P.—Cotton. 665
 33 Brice, D. A.—Cotton. 665
 34 Centennial Exhibition Committee, Nassau.—Fibres of the pita and pineapple plants, plantain, banana, and aloe trees, and esparto grass; wool made from leaves of the forest pine, pita plant, banana tree, and plantain. 666

Agricultural Engineering and Administration.

- 35 Saunders, Samuel P.—Cave earth (fertilizer). 68

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

BERMUDAS.

(North of Main Aisle, H 16.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Furniture and Objects of General Use
in Construction and in Dwellings.

- 1 Bermuda, Government of.—Inlaid tables. 217

Clothing, Jewelry, and Ornaments,
Traveling Equipments.

- 2 Trimmingham, J.
a Bermuda straw plait, bonnets, etc., palmetto plait, and articles made from the palmetto leaf. 251
b Wreath of shell work. 254
3 Middleton, T. D.—Articles in point lace, from Somerset Island. 252
4 Smith, Mrs. R. T.—Fine point lace. 252
5 Ness, Miss.—Point lace sleeveless basque. 252
6 Ness, Miss C.—Point lace sofa pillow. 252
7 Lines, Mrs.—Point lace. 252
9 Bermuda, Government of.—Walking canes. 254

Medicine, Surgery, Prothesis.

- 10 Hugh, J. B.—Medicinal herbs and drugs. 272

Educational Systems, Methods, and Libraries.

- 11 Education, Board of.—School-map of the Bermudas. 300
12 Thorpe, Mrs. W.—"Afternoon in Bermuda." 306
13 Wilkinson, Major H. J.—"The Sand Hills." 306
14 Anon.—Bermuda flowers from nature. 306

Engineering, Architecture, Maps, etc.

- 15 Bermuda, Government of.—Large general map of the Bermudas, details by Royal Engineers and Major Crawford, R.A.; diagram showing the monthly mean temperature of Bermuda compared with other places of winter resort, drawn by Lieut. Colonel Bland, R.E.; fac-simile of the earliest published map of Bermuda, from Norwood's survey of 1616. 335

Physical, Social, and Moral Condition
of Man.

- 18 Bermuda, Government of.—Examples of the ancient records of the colony of Bermuda, from 1616; title deeds, or original grants of land of the Bermuda Company, 1628-9.

Photography.

- 19 Somerset, Col. Fitzroy, R. E.—Photographs of Bermuda scenery, by the Royal Engineers. 430
20 Hugh, J. B.—Photographs of Bermuda scenery. 430

Aerial, Pneumatic, and Water Transportation.

- 21 Hinson, Dr.—Model of a Bermuda yacht, cutter-rigged. 594
22 Admiralty, Lords of the.—Model of her Majesty's floating dock at Bermuda; sectional drawing of same. 596

Arboriculture and Forest Products.

- 24 Several Contributors.—Sections and specimens of woods. 600
25 Astwood, Mrs.—Bird's-eye cedar, and other ornamental woods. 601

Pomology.

- 26 Committee, The.—Bananas and other fruits. 611

Marine Animals, Fish Culture and Apparatus.

- 27 Bermuda, Government of.—Conch shells used by cameo cutters; an extinct land shell of relatively large size; Sp. of hyaline; corals, nullipores, corallines, sea fans, and sea rods. 645

Animal and Vegetable Products.

- 28 Bermuda, Government of.—Sponges. 650
29 Hugh, J. B.—Dried and preserved fruits. 656
30 Tucher, Tho. Fowle.—Arrowroot. 658
31 Bertram, J. T.—Arrowroot and Toules Mois. 658

Textile Substances of Vegetable or
Animal Origin.

- 32 Peniston, W.—Fibre prepared from the leaves of fourcroya gigantea. 666

Machines, Implements, and Processes
of Manufacture.

- 33 Bermuda, Government of.—Tools used in freeing the ground of the roots of sage and wild mimosa. 677

Ornamental Trees, Shrubs, and
Flowers.

- 34 Bermuda, Government of.—Flowers ferns, and ornamental plants. 742

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

BRITISH GUIANA.

(North of Main Aisle, F 16.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural and Vegetable Products.

Clothing, Jewelry, and Ornaments;
Traveling Equipments.

- 1 Great Diamond Plantation.—Rice
straw ornaments. 254

Medicine, Surgery, Prosthesis.

- 2 Fresson, William.—Drugs and other
medicinal productions of the colony. 272

Arboriculture and Forest Products.

- 3 Mackey, T. H.—Greenheart wood,
nearly 100 years old. 600

Agricultural Products.

- 4 Great Diamond Plantation.—Rice.
620

Animal and Vegetable Products.

- 5 Fresson, William.—Starches. 658
6 Bel Air Plantation.—Vacuum pan
sugar. 659
7 Columbia Plantation.—Common pro-
cess sugar. 659
8 Greenfield Plantation.—Vacuum pan
sugar. 659
9 La Bonne Intention Plantation.—
Vacuum pan sugar. 659

- 10 Met-en-Meersorg Plantation.—
Vacuum pan sugar. 659

- 11 Ogle Plantation.—Vacuum pan
sugar. 659

- 12 Leonora Plantation.
a Vacuum pan and other sugars. 559
b Rum. 660

- 13 Uitvlugt Plantation.—Vacuum pan
sugar. 659

- 14 Vreed-en-Hoop Plantation.—Com-
mon process sugar. 659

- 15 Versailles Plantation.—Vacuum pan
sugar. 659

- 16 Great Diamond Plantation.
a Vacuum pan sugar. 659
b Rum. 660

- 17 Hope Plantation.
a Vacuum pan sugar. 659
b Rum. 660

- 18 Tuschen de Vrienden Plantation.
a Vacuum pan sugar; molasses. 659
b Rum. 660

- 19 Lusignan Plantation.—Rum. 660

Textile Substances of Vegetable or
Animal Origin.

- 20 Godfrey, B. J.—Plantain, silk grass,
mahoe, sweet brier, and monkey apple
fibres. 664

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CEYLON.

(North of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education, Art, Agriculture.

Minerals, Ores, Stone, Mining Products.

- 1 Armitage Bros., Colombo.—Tin and plumbago. 100

Clothing, Jewelry and Ornaments, Traveling Equipments.

- 2 Armitage Bros., Colombo.
 a Straw hats. 251
 b Cans. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

- 3 Armitage Bros., Colombo.
 a India-rubber. 285
 b Ropes. 287

Educational Systems, Methods, and Libraries.

- 4 Armitage Bros., Colombo.—Almanacs and other books. 306

Sculpture.

- 5 Armitage Bros., Colombo.—Elephant, carved in plumbago. 405

Photography.

- 6 Armitage Bros., Colombo.—Photographs. 430

Arboriculture and Forest Products.

- 7 Armitage Bros., Colombo.
 a Woods. 600
 b Dye woods. 601
 c Gutta-percha and gums. 603

Agricultural Products.

- 8 Armitage Bros., Colombo.
 a Coffee, spices, tobacco, and cigars. 623
 b Seeds. 624

Water Animals, Fish Culture and Apparatus.

- 9 Armitage Bros., Colombo.—Mother-of-pearl and other shells. 645

Animal and Vegetable Products.

- 10 Armitage Bros., Colombo.
 a Coco de mer. 630
 b Vegetable tallow. 632
 c Tapioca. 634
 d Sugars. 639

Textile Substances of Vegetable or Animal Origin.

- 11 Armitage Bros., Colombo.
 a Cotton. 665
 b Fibres. 666

STRAITS SETTLEMENT.

(North of North Avenue, Columns 15 to 17.)

Manufactures, Art, Agriculture.

Silk and Silk Fabrics.

- 1 Meyer, Behn, & Co., Singapore.
 a Silk floss from Rungpore. 242
 b Dyed silk from Rungpore. 243
 c Silk thread from Bengal, Gyah, and Rungpore. 244
 d Silk lace from Jubbulpore. 247

Photography.

- 2 Meyer, Behn, & Co., Singapore.—Photographic views. 430

Arboriculture and Forest Products.

- 3 Meyer, Behn, & Co., Singapore.
 a Woods from Singapore, Madras, Bombay, and Nagpore. 600
 b Dye-woods, galls, bark, etc. 602

Pomology.

- 4 Meyer, Behn, & Co., Singapore.—Nuts. 611

Agricultural Products.

- 5 Meyer, Behn, & Co., Singapore.
 a Grass. 630
 b Tea, coffee, spices, etc. 623
 c Seeds. 624

Textile Substances of Vegetable or Animal Origin.

- 6 Meyer, Behn, & Co., Singapore.
 a Cotton boll, seed, and flake. 665
 b Hemp and fibres. 666
 c Wool. 667
 d Cocoon silk. 668

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28

GOLD COAST.

(North of Main Aisle, B 16.)

Minerals, Manufactures, Machinery, Agriculture.

Minerals, Ores, Stone, Mining Products.

- 1 Colonial Government.
a Granite. 102
b White clay,—used in medicine, and to “chalk” divorced wives. 104

Chemical Manufactures.

- 2 Colonial Government.—Palm and other oils. 201
 3 Melton, W.—Palm, cocoanut, groundnut, and other oils. 201

Ceramics—Pottery, Porcelain, Glass, etc.

- 4 Colonial Government.
a Goldsmith's furnace and crucibles. 207
b Earthenware. 210

Furniture and Objects of General Use in Construction and in Dwellings.

- 5 Colonial Government.—Native stools; desk, and envelope case. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 6 Crowther, Bishop.
a Niger mats. 229
b Cotton goods. 230
 7 Colonial Government.
a Mats and baskets of grass. 229
b Cotton fabrics; Whydah and Agney cloth. 230

Woven and Felted Goods of Wool, etc.

- 8 Colonial Government.—Woolen fabrics. 238

Silk and Silk Fabrics.

- 9 Colonial Government.—Silk fabrics. 245

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 10 Colonial School, Cape Coast.—Wool knitting. 250
 11 Crowther, Bishop.—Slippers. 251
 12 Colonial Government.
a Sandals, hats, etc. 251
b Jewelry. 253
c Fans, pipes, walking-sticks, etc. 254
d Leather satchel and leather work. 255

Paper, Blank Books, Stationery.

- 13 Colonial Government.—Book for keeping gold accounts. 261

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Weapons, etc.

- 14 Crowther, Bishop.—Dagger. 268
 15 Colonial Government.—Swords, daggers, bows and arrows. 268

Fabrics of Vegetable, Animal, or Mineral Materials.

- 16 Colonial Government.
a Ropes. 287
b Basket ware. 289

Scientific and Philosophical Instruments and Methods.

- 17 Colonial Government.—Drums, guitars, flute, horn, etc.; strings for musical instruments. 227

Sculpture.

- 18 Colonial Government.—Carved wooden figures, ladies, etc.; carved image exhibited at native funerals. 465

Machines and Implements of Spinning, Weaving, Paper Making, etc.

- 19 Colonial Government.—Looms for manufacturing cotton yarns. 521

Arboriculture and Forest Products.

- 20 Colonial Government.
a Odium wood. 600
b Ornamental woods. 601
c Gums, resin, etc. 603

Pomology.

- 21 Colonial Government.—Nuts. 612

Agricultural Products.

- 22 Colonial Government.
a Beans. 621
b Pepper. 623
c Seeds, gourds, etc. 624
 23 Davison, Mrs.—Coffee (produced in eight months, from the seed). 623

Animal and Vegetable Products.

- 24 Colonial Government.
a Skins. 652
b Beeswax. 654
c Starch. 658
 25 Nugent, Mr., Cape Coast.—Arrow-root. 658
 26 Melton, W.—Colored starch. 658

Textile Substances of Vegetable or Animal Origin.

- 27 Colonial Government.—Fibres of bamboo, pineapple, etc. 66

MAURITIUS.

(North of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Agriculture.

Chemical Manufactures.		
1 Lemiére, A.—Salt.	200	
Clothing, Jewelry, and Ornaments; Traveling Equipments.		
2 Foucaud, Mme. Vve.—Slippers, cigar case, baskets, etc., made of Palmiste leaves.	254	
Medicine, Surgery, Prothesis.		
3 Boulton, L.—Medicinal plants.	272	
Educational Systems, Methods, and Libraries.		
4 Boulton, L.—Transactions of the Royal Society of Arts and Sciences of Mauritius, from 1870 to 1875. Book on medicinal plants of Mauritius.	305 306	
5 Kyshe, J.—Mauritius Almanac, 1874.	306	
Photography.		
C Moco, S.—Photographs.	430	
For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45		
Arboriculture and Forest Products.		
7 Horne, J.—Mauritius Botanical Gardens; native woods.	600	
Agricultural Products.		
8 Flore Mauricienne.—Vanilla.	623	
9 Bouton, H. & E.—Mauritius coffee.	623	
Animal and Vegetable Products.		
10 Mauritius, Flore Mauricienne.—Preserved fruit.	656	
11 Marie, François.—Arrowroot.	658	
12 Wiehe, J.—Sugars.	659	
Textile Substances of Vegetable or Animal Origin.		
13 Brugada, L. de, & Boucherville, E. de.—Ramie.	666	
14 Horne, J., Mauritius Botanical Garden.—Fibres, etc.	666	

QUEENSLAND.

(North of North Avenue, Columns 10 to 15.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

- Chemical Manufactures.**
- 1 Berkley & Taylor, Brisbane.—Dugong oil. 201
 - 2 Ching, John.—Dugong oil. 201
 - 3 Daintree, Richard.—Essences from Queensland vegetables. 203
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 4 Mount Marley Co.—Fire brick. 207
- Silk and Silk Fabrics.**
- 5 Chubb, C. F., Ipswich. 242
 - a Reeled silk. 242
 - b Manufactured silk. 245
- Medicine, Surgery, Prothesis.**
- 6 Clarke, David.—Eucalyptus medicinal preparations. 272
- Hardware, Edge-tools, Cutlery, and Metallic Products.**
- 7 Hipwood & Sutton.—Bells made of Queensland metal. 283
- Carriages, Vehicles, and Accessories.**
- 8 Queensland, Government of.—Saddlery made by prison labor. 296
- Educational Systems, Methods, and Libraries.**
- 9 Bailey, F. M.—"Ferns of Queensland." 306
 - 10 Clarke, David.—Catalogue of plants and seeds. 306
 - 11 Groom, W. H.—"Account of Toowoomba and Vicinity." 306
 - 12 Hartmann, C. H.—"Fruits, Flowers, and Timbers of Queensland." 306
 - 13 Hockings, A. T.—Catalogue of seeds and plants. 306
 - 14 Hockings, A. J., Brisbane.—"Queensland Garden Manual." "Horticulture in Queensland." 306
 - 15 Diggles, Silvester.—"Ornithology of Australia." 306
 - 16 Government Printing Establishment.—Bound books, pamphlets, and printed matter. 306
 - 17 Lukin & Greasley, Brisbane.—Copies of the "Queenslander." 306
- 18 Mackay, Angus.—Works entitled "The Sugar-cane in Australia," "Semi-tropical Agriculturist and Colonist's Guide." 306**
- 19 Proprietors of volumes of Queensland journals.—Journals with summary, prepared for the Centennial Exhibition. 306**
- 20 Robertson.—Maryborough almanac. 306**
- 21 Slotter, Geo., & Co.—Slotter's almanac. 306**
- 22 Thorne & Greenwell, Brisbane.—Queensland almanac and directory. 306**
- 23 Willmetts, Townsville.—Almanacs of Northern Queensland. 306**
- Engineering, Architecture, Maps, etc**
- 24 Brisbane Tin Company.—Model showing strata of tin country. 335**
- 25 Government Lithographic Establishment.—Maps, plans, charts, etc. 335**
- Photography.**
- 26 Commissioners for Queensland.—Views of Ipswich, Rockhampton, Marlborough, Townsville, and Warwick. 430**
- 27 Daintree, Richard.—Colored photographs. 430**
- 28 Mackay, Angus.—Colonial views. 430**
- 29 Wright, J. P.—Photographic views of Brisbane. 430**
- Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.**
- 30 Repetti, Joseph.—Model of quartz-crushing machine. 505**
- Arboriculture and Forest Products.**
- 32 Daintree, Richard.**
- a Collection of polished timbers. 600
 - b Gums from Queensland vegetables. 603
- 33 Hill, Walter, Botanical Curator, Brisbane.**
- a Collection of timbers in the rough. 600
 - b Queensland nuts. 605
 - c Bark for tanning. 602
- 34 Mackay, Angus.—Common timbers. 600**
- 35 O'Shauey, P. A., Rockhampton.—Timbers of northern Queensland. 600**
- 36 Pettigrew, William.—Pick and axe handles of Queensland woods. 602**

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, and Vegetable Products.

- 37 Carey, J. W.—Work-box of various finished woods. 601

Agricultural Products.

- 40 Downs, George, Gowrie.—Barley. 620
 41 Enderitch, H., Toowoomba.—Wheat. 620
 42 Free, A., Warwick.—Wheat. 620
 43 Free, George, Warwick.—Wheat. 620
 44 Mackay, Angus.—Queensland maize. 620
 45 Walker, R. F., Toowoomba.—Wheat, barley, and oats. 620
 46 Grimes, S. & G., Brisbane.—Arrowroot. 622
 47 Marks.—Arrowroot. 622
 48 Tahey, F., Nerang.—Arrowroot. 622
 49 Alexander, W. R., Redbank.
 a Coffee and tea. 623
 b Castor oil seeds. 624
 50 Boreham, J. H.—Chutney and spices. 623
 51 Chubb, F. E., Ipswich.—Coffee beans. 623
 52 Hill, Walter, Botanical Gardens.—Leaf tobacco. 623
 53 Hocker, J. H., Brisbane.—Cigars, cigarettes, leaf and manufactured tobacco. 623
 54 McFarlane.—Chili peppers. 623
 55 Mahony, Albert River.—Leaf tobacco. 623

Land Animals.

- 56 Richland, G., Cardwell.—Butterflies of northern Queensland. 638

Water Animals, Fish Culture and Apparatus.

- 57 Ching, John, Wide Bay.—Dugong calf, preserved in spirits. 640

Animal and Vegetable Products.

- 58 Stephens, T. B., Ekibin Tannery.—Leather and skins. 652
 59 Ching, John, Wide Bay.—Dugong skull, tusks, etc. 652
 60 Hayes, W. H., Candied pineapple, rockmelon, citron, ginger, lemon and orange peel. 656
 61 Neden Bros., Toowoomba.—Flour. 657
 62 Keates, F., Allora Mills.—Wheat, flour, and meal. 657
 63 Black, Messrs., Moysa.—Sugar. 659
 64 Brown, A. H., Antigua, Mary District.—Sugar. 659
 65 Couldrey, W. H., Ageston.
 a Sugar. 659
 b Rum. 660
 66 Davey & Gooding, Beenleigh.—Sugar. 656
 67 Davidson, J. E., Mackay.
 a Sugar. 659
 b Rum. 660

- 68 Fryar and Strachan, Loganholme.
 a Sugar. 659

- 69 Gibson & Sons, Clydesdale.—Sugar. 659

- 70 Superintendent of Penal Plantations.—Sugar. 659

- 71 Grimes, S. & G., Oxley.—Sugar. 659

- 72 Johnston, James, Helensfield, Doughboy.—Sugar. 659

- 73 Mackenzie, Gairloch.—Sugar. 659

- 74 Muir, Robert, Nerang.—Sugar. 659

- 75 Tooth & Cran, Zengarré.—Sugar. 656

- 76 Neame & Co., Herbert river.—Sugar. 659

- 79 Irwin Bros., Warrilla, Ipswich.—Wine. 660

- 80 Kirchner, Asmanhausen.—Wine. 660

- 81 Mauch, David, Warwick.—Wine. 660

- 82 Raff, George, Morayfield.—Rum. 660

- 83 Ramsey Bros., Lindah.—White spirits of wine. 660

- 84 Brocklemann, Brisbane.—Arrowroot biscuit. 661

- 85 Daintree, Richard.—Vegetable oils. 662

Textile Substances of Vegetable or Animal Origin.

- 86 Mackay, Angus.—Queensland cotton. 665

- 87 Hill, Walter.—Collection of fibres. 666

- 88 McPherson, Alexander, Fortitude Valley.—Collection of Queensland fibres. 666

- 89 Clarke, George E., Talgai.—Fleece wool. 667

- 90 Davenport, G. H.—Merino wool. 667

- 91 Fenwick & Scott.—Australian wool. 667

- 92 Fisher, C. B., Headington Hill.—Merino wool. 667

- 93 Gore & Co., Yandilla.—Ewe fleece wool. 667

- 94 Green, C. H., Goomburra.—Fleece wool. 667

- 95 Gunn, Donald, Pikedale.—Wool. 667

- 96 Marshall & Slade, Glengallen.—Fleece wool. 667

- 97 North British Australian Co.—Fleece wool. 667

- 98 Parr, B. Is, Chiverton.—Australian merino fleece wool. 667

- 99 Parr, B. C.—Fleece wool. 667

- 100 Shanahan & Jennings, Westbrook.—Merino wool. 667

- 101 Government Penal Establishment.—Silk worm cocoons. 668

- 102 Hine, Mrs., Ipswich.—Silk cocoons. 668

Ornamental Trees, Shrubs, and Flowers.

- 103 Bailey, F. M.—Flora of Australia, and Botany of Queensland. 75

For classes of exhibits, indicated by numbers at end of entries; see Classification, pp. 77-85.

ARCHIPELAGO OF SEY- CHELLES.

(North of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural, Animal, Vegetable Products.

Furniture and Objects of General Use in Construction and in Dwellings.

- 1 Bouquet, Miss.—Teacups and saucers. 218

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 2 Bouquet, Miss.
a Straw hats and slippers. 251
b Straw baskets, watch-pockets, and fans. 254
3 Cayol, Mrs. Tony.—Bouquets of shell flowers. 254
4 Bury, J. Ames.—Walking-canes. 254

Arboriculture and Forest Products.

- 6 Seychelles, Chief Commissioner of.—Samples of woods and planks. 600
7 Briard, Mr., Praslin Island.
a Black bark dye and samples of dyed stuffs. 602
b Nuts. 605

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural Products.

- 8 Houareau, Sylvain.—Tobacco. 623
9 Madine, Mr.—Cigars. 623
10 Lemarchand, Mr.—Cacao, cloves, coffee, and vanilla. 623

Water Animals, Fish Culture and Apparatus.

- 10a Beyron, F.—Turtle shell. 645

Animal and Vegetable Products.

- 11 Bouquet, Miss.—Coca de mer straw. 650
13 Cauvin's Distillery.—White rum. 660
14 Nageon, Mr., La Digue Island.—Cocoanut oil. 662

Textile Substances of Vegetable or Animal Origin.

- 15 Brooks & Dupuy.—Cotton from Denis Island. 665
16 Briard, Mr.—Cotton. 665

TASMANIA.

(South of North Avenue, Columns 13 to 15.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Chemical Manufactures.

- 1 Kermode, W. A., Mona Vale.—Salt. 200
- 2 Strachan, R., Cambridge.—Salt. 200
- 3 Colvin, Charles, Hobart Town.—Oil from mutton birds, from islands in Bass's Straits. 201
- 4 Coverdale, John, Port Arthur.—Red ochre, earth for paints. 202
- 5 Laughton, James, Hobart Town.—Earth for paints. 202

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 6 Bidecove, J., Hobart Town.—Silk and felt hats and caps, with material of manufacture. 251
- 7 Tasmanian Commissioners.—Opossum and cat skin rugs. 256
- 8 Hull, H. M., Hobart Town.—Portraits of aborigines. 257

Weapons, etc.

- 9 Moir, J., Queenborough, Hobart Town.—Shot. 265

Educational Systems, Methods, and Libraries.

- 10 Hull, H. M., Hobart Town.—"Hull's Hints to Emigrants," parliamentary journals. 306
- 11 Nowell, E. C.—Books. 306
- 12 Tasmanian Commissioners.—Newspapers and statistics. 306
- 13 Walch & Sons, Hobart Town.—Almanac and guide. 306

Scientific and Philosophical Methods and Systems.

- 14 Royal Society of Tasmania.—Meteorological tables. 320

Engineering, Architecture, Maps, etc.

- 15 Randall, A., Hobart Town.—Chart of waterworks. 330
- 16 Dibbs, T. F., Launceston.—Chart of Launceston. 335
- 17 Cemetery Commissioners, Hobart Town.—Chart of cemetery. 335
- 18 Moore, Hon. Wm., Hobart Town.—Geological map of Tasmania. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

- 19 Walch & Sons, Hobart Town.—Charts of Hobart Town and Launceston. 335
- 19a Hull, H. M., Hobart Town.—Map of Tasmania. 335

Physical, Social, and Moral Condition of Man.

- 20 Walch & Sons, Hobart Town.—Tasmanian postage stamps. 345

Sculpture.

- 21 Carlsen, P. O., Port Arthur.—Carved ivory and wooden egg and cruet stand; carved ivory and myrtle Danish pipe. 405

Photography.

- 22 Bailey, H. H., Hobart Town.—Photographs. 430
- 23 Hobart Town, Corporation of.—Photographs of public buildings. 430
- 24 Launceston, Corporation of.—Photographs of public buildings. 430
- 25 Tondeur & Lempriere, Melbourne.—Photographs of the British and Tasmanian Charcoal Iron Company's (limited) Works in Tasmania. 430

Machines and Implements of Spinning, Weaving, and Paper Making.

- 26 Coverdale, J., Port Arthur.—Spinning jenny of Tasmanian myrtle. 521

Arboriculture and Forest Products.

- 27 Creswell, C. F., Hobart Town.—Forest tree seeds (340 varieties). 600
- 28 Gulliver Brothers, Hobart Town.—Tree seeds. 600
- 29 Hull, Hugh M., Hobart Town.—Polished Tasmanian woods. 600
- 30 Edwards, G. W., Hobart Town.—Grass-tree gum and resin, for varnish. 603
- 31 Mitchell, Mrs., Swansea.—Gum, from Oyster Bay pine. 603
- 32 Lipscombe, F., Sandy Bay.—Blue gum seeds. 605

Agricultural Products.

- 33 Dalgety, Moore, & Co., Launceston.—Wheat and oats. 606
- 34 Dean, W., New Norfolk.—Wheat. 606

Agricultural, Animal, Vegetable Products.

- 35 Gibson, W., Hobart Town.—
Wheat. 620
- 36 Harrap, A., Launceston.—Wheat. 620
- 37 Hogarth, D., Launceston.—
Wheat. 620
- 38 Kemp, G., Upper Bagdad.—
Wheat. 620
- 39 Archer, W. H. D., Longford.
a Wheat and English barley. 620
b Linseed. 624
- 40 Creswell, C. F., Hobart Town.
a Wheat, barley, oats, and rye. 620
b Peas and beans. 621
c Grass and other seeds. 624
- 41 Graves, J. W., Hobart Town.—Na-
tive bread. 621
- 42 Sharland, W. C., New Norfolk.—
Hops. 623
- 43 Shoobridge, E., New Norfolk.—
Hops. 623

Land Animals.

- 44 Archer, W. H. D., Longford.
Cream-colored opossum, platypus. 637

Water Animals. Fish Culture and Apparatus.

- 45 Salmon Commissioners of Tasma-
nia.—Brown trout. 641
- 46 Davies, R. H., Torquay.—Tasma-
nian shells. 645

Animal and Vegetable Products.

- 47 Coverdale, John, Port Arthur.—Sea-
weed, and jelly made therefrom. 650
- 48 Archer, W. H. D., Longford.—Native
furs and skins. 652
- 49 Arnot, S., Bothwell.—Leather of
kangaroo skins. 652
- 50 Gardner & McKenzie, Launceston.—
Skins of kangaroo, tanned and dressed ;
native furs and skins. 652
- 51 Tasmanian Commissioners.
a Native furs and skins. 652
b Blue gum tree oil. 662
- 52 Holroyd, Kennedy, & Co., Hobart
Town.—Jams and tart fruits. 656
- 53 Degraives, John, Hobart Town.—
Malt. 657
- 54 Dossetor Brothers, Hobart Town.—
Flour. 657

- 55 Gracie, William, Hobart Town.—
Malt. 657

Textile Substances of Animal or Vegetable Origin.

- 56 Archer, W. H. D., Brickendon,
Longford.—Merino wool. 667
- 57 Brock, J.—Merino wool. 667
- 58 Cameron, Hon. Donald, Burnside.—
Merino wool. 667
- 59 Gibson, James, Belle Vue, Cleveland.
—Merino wool; portrait of stud sheep. 667
- 60 Gibson, W. H., Fairfield, Snake
Banks.—Merino wool. 667
- 61 Gibson, W., & Son, Scone, Perth.—
Merino wool; portraits of stud sheep. 667
- 62 Headlam, Charles, Eggleston, Mac-
quarie river.—Merino wool. 667
- 63 Keach, G. W., Chiswick, Ross.—Me-
rino wool. 667
- 64 Lindley, G. W., Runnymede, Rich-
mond.—Leicester wool. 667
- 65 McLanachan, Hon. James, Balloch-
myle.—Merino wool. 667
- 66 Page, Samuel, Belle Vue, New
Town.—Merino wool. 667
- 67 Parramore, Thomas, Beaufront,
Ross.—Merino wool. 667
- 68 Ralston, John, Logan, Evandale.—
Merino wool. 667
- 69 Searle, C.—Leicester wool. 667
- 70 Sharland, W. S., Woodbridge, New
Norfolk.—Merino wool. 667
- 71 Shaw, Fred., Redbanks, Swansea.—
Leicester wool. 667
- 72 Simmons, W. C.—Leicester wool. 667
- 73 Taylor, David, St. Johnstone's, Mac-
quarie river.—Merino wool. 667
- 74 Taylor, G. Milford, Campbell Town.
—Merino wool. 667
- 75 Taylor, John, Winton, Campbell
Town.—Merino wool. 667
- 76 Wilson, George, Oatlands.—Merino
wool. 667

Agricultural Engineering and Ad-
ministration.

- 77 Anglo-Australian Guano Company,
Hobart Town.—Guano from Bird's Is-
land. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TRINIDAD.

(South of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Animal and Vegetable Products.

Minerals, Ores, Stone, Mining Products.

- 1 André, L. A. F.—Surface coals from the eastern coast. 101
- 2 Finlayson, Thomas A.—Asphalt, boiled and crude. 101

Furniture and Objects of General Use in Construction and in Dwellings.

- 3 Devenish, Syl., Surveyor General.—Gourd calabash. 224

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 4 Trinidad, Government of.—Mats, fans, strainers, etc. 254
- 5 McAdam, Miss Venus.—Baskets made of gourds. 254
- 6 Devenish, Syl., Surveyor General.—Walking-sticks. 254

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 7 Devenish, Syl., Surveyor General.—Razor strops. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

- 8 Trinidad, Government of.—Baskets. 289

Arboriculture and Forest Products.

- 9 Prestoe, Hy., Government Botanist.—Collection of native woods. 600
- 10 Devenish, Syl., Surveyor General.—Samples of woods. 600
- 11 Trinidad, Government of.—Gutta-percha, liquid and solid. 603

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Pomology.

- 12 Cumming, A., & Co., Port of Spain.—Cocoanuts. 611

Agricultural Products.

- 13 Prestoe, Hy., Government Botanist.—Nutmegs, cloves, mace, etc. 623
- 14 Needham, Sir Jos., San Antonio.—Cocoa. 623
- 15 Penco, Jos., La Merced.—Cocoa. 623
- 16 Cleaver, C., Verdant Vale.—Cocoa. 623
- 17 D'Abadie, St. L., St. Pedro.—Cocoa. 623
- 18 Flamant, Mrs. C.—Snuff of native tobacco. 623

Animal and Vegetable Products.

- 19 Prestoe, Hy., Government Botanist.—Preserved fruits. 656
- 20 Trinidad, Government of.—Cassaripe. 656
- 21 Flament, Mrs. Ch.
 - a Farina and plantain flour. 657
 - b Cassada starch. 658
- 22 Jenny, Miss.—Farina. 657
- 23 Colonial Company's Agency.—Sugar. 659
- 24 Seigert, Dr., Port of Spain.—Angostura bitters. 660
- 25 Somes & Co.—Cocoanut oil. 662
- 26 Devenish, Syl., Surveyor General.—Carap oil. 662

Textile Substances of Animal or Mineral Origin.

- 27 Somes & Co., Nariva Cocal.—Cocoanut fibre. 666
- 28 Devenish, Syl., Surveyor General.—Fibre from Agave vivipara. 666
- 29 Prestoe, Hy., Government Botanist.—Fibres. 666

INDIA.

(North of Nave, Columns 22 to 25.)

COLLECTIVE EXHIBIT.

Chemicals, Ceramics, Woven Goods, Clothing.

Chemical Manufactures.

COLLECTIONS FROM THE INDIAN MUSEUM, BY J. FORBES WATSON, M.A., LL.D., DIRECTOR OF THE INDIAN MUSEUM, ETC.

- a* Rock salt from Salt range; salt from Poorthemaik, Nellore, Toomlook, Balasore, Cuttack, and Jeypore; black salt from Calcutta; saltpetre from Cutch, Sarun, Bengal, Ahmednugger, Lahore, Central India, Ellore, Nellore, Cawnpore, Salem, Madras, and Calcutta; alum from Madras, Lahore, and Bengal; carbonate of soda from Lind and Calcutta; sulphate of iron from Salt range; borax from Thibet; sal ammoniac from Kurnal and Calcutta; sulphate of copper from Calcutta. 200
- b* Gamboge from Bombay; indigo from South Arcot, Moorshedabad, Madras, and Shikarpore; cutch from Calcutta, Madras, and Burmah; gambier from Bombay and Malacca; lac dye from Jubbulpore and Malwa. 202

Ceramics—Pottery, Porcelain, Glass, etc.

- c* Ornamental tiles from Hyderabad. 208
- d* Water vessels from Patna, Ghallawar, Madras, South Canara, and Allahabad; vase from Sindh; hookah bowl and bottom from Patna; cup, dish, and cover from Hyderabad; milk pan from Madras; goblet from Vizagapatam. 210

Furniture and Objects of General Use in Construction and in Dwellings.

- e* Copper and brass lamps, boxes, plates, dishes, basins, cups, etc., from Calcutta, Benares, Bengal, Bombay, Patna, Indore, Madras, Mirzapore, Travancore, Nepal, Cachar, and Poona; betel plates inlaid with silver, from Hyderabad; copper amulet case from Thibet; brass spoon for oil from Madras. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

- f* Phulgat mat from Travancore. 229
- g* Muslin and cotton from Dacca and Madras. 230
- h* Striped and checked cotton from Madras. 231

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4.

Woven and Felted Goods of Wool, etc.

- i* Cashmere and woolen carpets from Madras, Scind, and Ferahan. 239
- j* Cashmere long and square shawls, net shawls, chuddahs, scarfs, burnouse, cravats, gold embroidered cloaks and table covers. 240

Silk and Silk Fabrics.

- k* Raw silk from Surdah, Berhampore, Bogra, Seetapore, and Bengal; Tusseh silk thread from Bengal, Gyah, and Bhagulpore; cocoons from Bengal and Cuttack; Eria silk thread from Rungpore and Assam. 242
- l* Floss silk from Umritsur, Punjab, Vellore, Tatta, and Cashmere. 243
- m* Striped and plain piece silk from Beerchoom, Hyderabad, Ahmedabad, Burmah, and Benares. 246

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- n* Women's garments from Madras, Pegu, and Dharwar; men's garments from Goo-daspore, Moultan, and Sindh; pinna silk skirt from Madras. 250
- o* Embroidered shoes and turbans from Hyderabad, Gwalior, Sindh, Kotah, and Madras. 251
- p* Nets, muslin, cloth, and silk embroidered in gold and colors from Sindh, Madras, Benares, Hyderabad, Delhi, Bhurtapore, and Bombay; gold, silver, white, and colored laces from Bombay, Nagpore, and Madras; handkerchief from Poona convent; doyleys from Madras. 252
- q* Collection of jewelry from Bombay. 253
- r* Dolls from Benares; fans from Madras, Delhi, Tipperah, South India, Poona, and Monghyr; chourie split ivory from Sylhet; chowrie, split sandal wood from Madras. 254
- s* Leather box, embroidered with quill work, from Simla. 255

Weapons, etc.

- t* Spears, bows and arrows from Lahore, Delhi, and South India; velvet quivers and arm covers from Lahore; battle axes from Delhi and Nagpore; coat of mail from Punjab; daggers, swords, breast-plates, etc., from Lahore, Burmah, Deccan, Coorg, and Bengal.

Manufactures, Education, Art, Agriculture.

Medicine, Surgery, Prothesis.

- * Barks, liquorice, opium, nux vomica, aconite, patchouli, tamarinds, anise, cardamom and croton seeds, cubebs, blistering beetles, juniper berries, aloes, and other medicinal products from Madras, Travancore, Bombay, Penang, Bengal, Mysore, North India, Malacca, and Calcutta. 272

Hardware, Edge Tools, Cutlery, and Metallic Products.

- v Copper bell from Burmah. 283
w Lock and key from Indore. 284

Fabrics of Vegetable, Animal, or Mineral Materials

- x Baskets and cigar case from Madras; cane stands from Singapore; grass window shades from Travancore; papier-maché articles from Cashmere, Kurnool, and Sindh; lacquered wood work from Burmah and Sindh; japanned cabinet from Bareilly. 289

Carriages, Vehicles, and Accessories.

- y Model of state carriage from Poona. 292
z Models of passenger and luggage carts, and palanquin from Bombay. 293
aa Sikh saddle; velvet and gold trappings from Punjab. 296

Educational Systems, Methods, and Libraries.

- ab Books, "The People of India" and "The Textile Manufactures of India," by J. Forbes Watson, I.L.D.; "Tree and Serpent Worship," by J. Fergusson, F.R.S.; "Ancient Buildings in Kashmir" and "Ancient Buildings near Muttra and Agra," by Lieut. H. H. Cole; "Primitive Tribes of the Nilagiris," by J. W. Breeks; Report on the Archaeology of West India, by J. W. Burgess. 306
ac Stringed and wind instruments from Madras; kettle drum from Bengal; horn from Moorshedabad. 327

Engineering, Architecture, Maps, etc.

- ad Maps illustrative of Indian surveys; relief map of India. 335

Sculpture.

- ae Sculptured stone bull from Nandi. 400
af Sculptures from the Amravati Tope, viz.: base of large slab; panel figure of temple with Buddha seated; portions of frieze; figure standing; slab, Buddha's feet. 401
ag Carved model of Burman chuttree, and sandal wood model of Hindoo temple from Booj; carved vase, sandal wood fan, and glove box from Bombay; carved stone idol, "Vishnu riding on Garuda" from Madras; carved wooden idols from Nepal; carved ivory box from Burmah; carved elephant with howdah from Berhampore; carved horn tazza from Gokah; carved pith figures from Trichinopoly, and carved horn drinking cup from Rittnaghery. 405

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Photography.

- ah Photographic views of India; photographs of races and tribes of Hindoostan; photographs of Indian architecture. 430
ai Photo-lithographs illustrative of the textile fabrics of India. 432

Ceramic Decorations, Mosaics, etc.

- aj Inlaid marble boxes from Agra and Myhere. 450
ak Inlaid wooden glove and work box from Bombay. 452
al Card basket and box of porcupine quill work from Vizagapatam; casket and basket of Kofigari ware; miniature paintings on ivory, in carved sandal wood frames from Delhi; writing pads of ornamental painted leather from Kurnool; paintings on mica from Trichinopoly; samples of ornamental writing in colors. 454

Aerial, Pneumatic, and Water Transportation.

- am Models of passenger, ferry, coasting, and freight boats from Calcutta. 594

Arboriculture and Forest Products.

- an Ornamental and other woods. 601
ao Dye woods, barks, roots, and galls from Madras, Sindh, Cuttack, Nagpore, Burmah, and Singapore. 602
ap Gums, resin, incense, gutta-percha, myrrh, etc., from Raepore, Gyal, Burmah, Madras, Pegu, Salem, Travancore, Malacca, Indore, and Bombay. 603

Agricultural Products.

- aq Wheat from Sindh, Punjab, Faridpur, and Bengal; barley from Helgaum, and other places; oats from Patna and Monghyr; maize from Northwestern India; millet; raggee; buckwheat from the Himalayas; illustrations of food plants of India. 620
ar Peas, beans, lentils, and vetch. 621
as Tea from Assam, Bishnath, Cachar, Dehra-Doon, Punkabaree, Kangra, Kumaon, and other places; tea buds from Silcoorie; coffee from Aden, Bombay, Tinnevely, Paradise estate, and Chittagong; coffee berries from South India, Mysore, and Coorg; spices, pepper, ginger, mustard, curry powder, and turmeric from Bombay, Travancore, Indore, Dehra-Doon, Bengal, Nepal, Madras, and other places. 623
at Coriander, dill, and fennel seed from Berar, Oudh, Faridpur, and Dharwar; water lily stems from Sindh; oil seeds from Faridpur, Nagpore, Ahmednugger, Bengal, and Indore; poppy seed from Central Provinces and Bengal; groundnuts from Berar, Indore, and Khandeish. 624

Land Animals.

- au Various kinds of silk worms of India from Cashmere, Bengal, and the Himalayas. 638

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- av Pearl oysters from Kurrachee. 640
aw Edible birds' nests from Ceylon; fish maws and sharks' fins from Bombay. 641

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Animal and Vegetable Products.

- ax* Glue from Cawnpore. 652
ay Beeswax from Travancore, Pegu, Rangoon, Singapore, and Chota Nagpore. 654
as Soojee flour from Madras; rice from Punjab, Sindh, and Bengal. 657
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Textile Substances of Vegetable or Animal Origin.

- bb* Cotton from various parts of India, in its different stages of growth and manufacture. 665
bc Flax from Punjab; rheea stems and fibre from Assam; brown hemp from Bombay; Jubbulpore hemp; pineapple fibre from Madras and Mangalore; alooe fibre from Madras; Manila hemp; mat grass from

- Bengal; illustrations of fibre-producing plants of India. 666
bd Sheep's wool from Bombay, Mysore, Ladhak, and Bokhara; goat's wool from Umritsur, Punjab, Turfan, and Yarkand; camel's wool from Bokhara and Punjab. 667

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- be* Plow and yoke from Berar. 670
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Agricultural Engineering and Administration.

- bg* Models of water and cotton cart from Bombay. 682

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Chemical Manufactures.

- 1 Cowan, A., Brockville, Ont.—Salt, nitre cake; nitric, muriatic, and sulphuric acids; sodium nitrate. 200
 12 Geological Survey of Canada, Q.
a Salt, salt cake, salt gypsum cake, residue for crystallizing pans, salt scales. 200
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 14 Sharp, Jos. S., Apohaqui, N. B.—Salt. 200
 17 Cooper, Robert, Toronto, Ont.—Washing crystals. 200
 18 Lane, T. G., Hamilton, Ont.—Washing and bleaching crystals. 200
 19 Saunders, Wm., London, Ont.
a Pharmaceutical preparations. 200
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 20 Lyman, Clare, & Co., Montreal, Q.
a Pharmaceutical preparations. One of the longest established drug firms in the Dominion. Specialty—pure drugs. Also, linseed oil crushers and paint grinders. 200
b Oil. 201
c Paints. 202
 22 Lyman Bros. & Co., Toronto, Ont.
a Pharmaceutical and chemical preparations. 200
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c Paints in oil. 202
 23 Wilson, John, St. John, N. B.—Soaps. 201
 24 Savage, Alfred, & Son, Montreal, Q.—Oil. 201
 25 Morse, Geo. D., & Co., Toronto, Ont.—Soap, candles, tallow, lard, and oils. 201

- 26 Walker, J., Hamilton, Ont.—Soaps. 201
 28 Hood, A. W., & Son, Montreal, Q.—Soaps. 201
 29 Albert Toilet Soap Co., Montreal, Q.—Soaps. 201
 30 Spinelli, R., Montreal, Q.—Paraffine soaps. 201
 31 Lyman, S. J., Montreal, Q.
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b Perfumery. 203
 33 Waterman Bros., London, Ont.—Hard and soft coke from petroleum, crude and refined petroleum, paraffine oil, benzine, axle oil, tar from petroleum, paraffine scales. 201
 36 Leeds Paint Manufacturing Co., Mallorytown, Ont.—Ferruginous rock and paints. 202
 39 Buchanan Mineral Co., Walsingham, Ont.—Paints and colors. 202
 40 McKay, William, Ottawa, Ont.—Liquid drier for paint, printers' ink. 202
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 44 Ramsay, A., & Son, Montreal, Q.—Paints. 202
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 53 Copeland & McLaren, Montreal, Q.—Iron oxide. 203

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- 57 Edgett, W., Pudsey's Point, N. S.—Iron ochre. 202
- 58 Miller, Hugh, & Co., Toronto, Ont.—Pomade. 203
- 62 Manuvilling, J. J., Hampton, N. B.—Matches. 204
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 81 Pratt, Charles, London, Ont.—Pottery. 206
- 82 Ahren, J. H., Paris, Ont.—Pottery. 206
- 83 Bell, David, Little River, Q.—Drain tiles. 206
- 84 Mochan, Albert, St. John, Q.—Bricks. 206
- 86 Geological Survey, Montreal, Q.—Bricks. 206
- 87 Advisory Board, Quebec, Q.—Bricks. 206
- 91 Bell, W. & D., Quebec, Q.—Tobacco pipes. 206
- 93 Lee Brothers, St. John, N. B.—Bricks, drain tiles. 206
- 94 Smith & Kaye, Halifax, N. S.—Bricks, drain tiles. 206
b Earthenware. 210
- 98 St. John Stone Chinaware Co., St. John, Q.—Stone chinaware. 210
- 99 Cape Rouge Pottery Co., Quebec, Q.—Crockery ware. 210
- 103 Booth, W., Toronto, Ont.—Sign painting on glass. 216
- 104 McAusland, J., Toronto, Ont.—Stained glass, figured work. 216
- Furniture and Objects of General Use in Construction and in Dwellings.**
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- 111 Murphy, A. A., Montreal, Q.—Store stools. 217
- 112 Roy & Co., Montreal, Q.—Invalid mechanical chair. 217
- 113 Reinhardt, C., Montreal, Q.—Combination spring-bottom bedstead. 217
- 114 Reid, R., Montreal, Q.—Marble mantelpiece. 217
- 115 Stephen, A., & Son, Halifax, N. S.—Secretary. 217
- 117 Drum Cabinet Manufacturing Co., Quebec, Q.—Parlor and bedroom sets, sideboard. 217
- 118 Whiteside, H., & Co., Montreal, Q.—Beds and mattresses. 217
- 121 Chapleau, Godfroi, Montreal, Q.—Fireproof safes, burglar-proof door. 217
- 122 Bennett, Jas., St. John, N. B.—Newspaper files. 217
- 123 Hutching & Co., St. John, N. B.—Mattresses. 217
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- 140 Brown, J. T., St. John, N. B.—Frames, book-rack. 220
- 141 Copp Bros., Hamilton, Ont.
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- 151 Trudeau, P., Ottawa, Ont.—Gas burner, globe, and gallery. 223
- 154 Williams, J. M., & Co., Hamilton, Ont.—Tin and stumped ware. Manufacturers of plain, stamped, re-tinned and japanned tinware, tubular lanterns, etc. Price lists sent on application. 224
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- 163 Lawlor & Co., Montreal, Q.—Washing machines. 225
- 164 Hall, G. B., Quebec, Q.
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- 168 Foster, S. R., & Son, St. John, N. B.—Fireproof shutters. 227
- 171 Wood, T. M., & Co., Toronto, Ont.—Venetian blind. 227
- 174 Evans, Oscar C., Hamilton, Ont.—Blinds. 227
- 176 Fontaine, J., Montreal, Q.—Hot-house windows. 227
- 177 Wells & Co., Toronto, Ont.—Window fastener. 227
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- 179 Wilson, Gilmour, & Co., St. John, N. B.—Marbleized mantels and grates. 227
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 180 Dundas Cotton Mills Co., Hamilton, Ont.—Cotton fabrics. 229
- 181 Canada Cotton Manufacturing Co., Cornwall, Ont.—Domestics, bedding, yarn, etc. 229

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- 183 Woodworth, J. L., St. John, N. B.—
Cotton yarns. 230
- 184 Parks, W., & Son, St. John, N. B.—
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- 185 Winger, H., Elmira, Ont.
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- 186 Stevens, A. J., & Co., Paris, Ont.—
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- Woven and Felted Goods of Wool, etc.**
- 191 Toronto Tweed Co., Toronto, Ont.
a Tweeds. 235
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- 192 Rosamond Woolen Co., Almonte,
Ont.—Cassimeres. 235
- 195 Mills & Hutchison, Montreal, Q.—
Tweeds. 235
- 196 Paton Manufacturing Co., Sher-
brooke, Q.—Cloths and tweeds. 235
- 197 Woodworth, J. L., St. John, N. B.—
Woolen yarns. These 4-ply woolen yarns,
chiefly for knitting purposes, are made of
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durability. 235
- 198 Oxford Woolen Mills, Oxford, N.
S.—Woolen goods. 235
- 199 Fisher, T. S., Toronto, Ont.
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b Yarns. 238
- 200 Advisory Board, Victoria, Br. Col.
a Yarn made from wool of Rocky mountain
goat. 235
b Indian blankets from wool of Rocky moun-
tain goat. 237
- 201 Lomas, Adam, & Son, Sherbrook,
Q.—Flannels. 236
- 202 Willett, S. T., Chambly, Q.—Flan-
nels. 236
- 203 St. John Woolen Mills, St. John, Q.—
Flannels. 236
- 203a Smith & Wilby, Toronto, Ont.—
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- 204 Cantlie, Ewan, & Co., Montreal, Q.—
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- 205 Winger, H., Elmira, Ont.
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b White stocking yarn. 238
- 207 Wardlaw, J., Galt, Ont.—Woolen
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- 210 Taylor, R. F., & Son, Toronto, Ont.—
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- 212 McCrae & Co., Guelph, Ont.—Knit
goods and hosiery. 250
- 213 Ancaster Knitting Co., Hamilton,
Ont.—Knitted and fancy goods. 250
- 214 Blacklock, W., & Co., Hastings,
Ont.—Wool shirts and drawers. 250
- 215 Smith, H. H., Goderich, Ont.—
Suits of Canadian goods. 250
- 216 Shorey & Co., Montreal, Q.—Ready
made clothing. 250
- 217 Fisher, T. S., Toronto, Ont.—
Shirts, pants, clouds, and scarfs. 250
- 218 Skelton, Tooke, & Co., Montreal,
Q.—Shirts, collars, and cuffs. 250
- 219 Brown & Clagget, Montreal, Q.—
Dresses. 250
- 220 Willis, E., & Co., St. John, N. B.—
Paper collars and cuffs. 250
- 222 May, James S., St. John, N. B.—
Ready-made clothing. 250
- 225 McKensie, Charlottetown, P. E.
I.—Clothing. 250
- 228 Sussex Boot & Shoe Co., Sussex
N. B.—Boots and shoes. 251
- 228 Sutherland, A., Kingston, Ont.—
Boots and shoes. 251
- 231 King & Brown, Toronto, Ont.—
Boots and shoes. 251
- 233 Moore, Th., Cooksville, Ont.—
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- 235 Corestine, J., & Co., Montreal, Q.—
Hats and caps. 251
- 237 Gentesse, C., Montreal, Q.—Im-
proved head conformateur. 251
- 238 Slater & Perry, Montreal, Q.—
Boots and shoes. 251
- 239 Cloutier, George, Pointe Levis, Q.—
Shooting boots. 251
- 242 Ramsay, D., Cobourg, Ont.—Boots
and shoes. 251
- 244 Dominion Suspender Co., St. Ste-
phens, N. B.—Gents' and youths' suspend-
ers. 251
- 260 Saunders, S., Guelph, Ont.—Carved
walking-canes. 254
- 261 Shantz, J. Y., Berlin, Ont.—Vege-
table ivory buttons. 254
- 263 Lavoie, M., Montreal, Q.—Hair
work. 254
- 264 Leblanc, J. H., Montreal, Q.—
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- 265 Clarke, U. E., & Co., Toronto, Ont.—
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Trunks. 255
- 267 Borbridge, S. & H., Ottawa, Ont.—
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- 269 Renfrew, G. R., & Co., Quebec, Q.—
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Complete set of furs. 256
- 271 Hudson Bay Co., Montreal, Q.—
Furs. 256
- 272 Keizer, C., & Son, Halifax, N. S.—
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- 272 Thibault, Lanthier & Co., Mon-
treal, Q.—Furs. 256
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- 278 Kilgore Bros., Toronto, Ont.—
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- 283 Wilson, J. C., & Co., Montreal, Q.—
Paper bags. 260
- 284 Canada Paper Co., Montreal, Q.—
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lopes. 260
- 288 Warwick, Wm., Toronto, Ont.—
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- 289 Hunter, Rose & Co., Toronto, Ont.—
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- 290 Brown Bros., Toronto, Ont.—Ac-
count and pocket book binding. 261
- 291 Perrault, L., & Co., Montreal, Q.—
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295 MacKinlay, A. & W., Halifax, N. S.—Blank books. 261
297 Stanton, M., & Co., Toronto, Ont.—Room paper hangings. 264

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- 300 Meyer, F. W. Albert, Montreal, Q.**—Small gun, light artillery. 266
301 Rawbone, J. L., Toronto, Ont.—Implements for breech and muzzle guns. 269
302 Stephens, R. E., Owen Sound, Ont.—Breechloading rifle. This rifle is remarkable for having only the minimum of motions, cock, load, and fire; the maximum of rapid fire is consequently attained. It has the side-hinge block breech. 269
303 Kilby, R. H., Montreal, Q.—Evans repeating rifle. 269
305 Egan, John, Halifax, N. S.—Case of guns and rifles. 269

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- 307 Miller, Hugh, & Co., Toronto, Ont.**—Tick destroyer for sheep. 272
310 Stewart, George, jr., St. John, N. B.—Ship's medicine chest. 272
311 Marter, F. B., Halifax, N. S.—Ship's medicine chest. 272
314 Canada Truss Factory, Montreal, Q.—Surgical apparatus, artificial limbs. 276
315 Pourtier, M., Quebec, Q.—Philodonte fountain. 277

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- 316 Moore, Th., Cooksville, Ont.**—Axe and tool handles. 280
318 Smith, R. H., & Co., St. Catherine, Ont.—Saws. 280
320 Dates Patent Steel Co., Toronto, Ont.—Edge tools. 280
322 Ahern & Walsh, Ottawa, Ont.—Lumbermen's tools. 280
323 Robertson, Peter, Ottawa, Ont.—Lumbermen's and stonecutters' tools. 280
324 Warnock, Jos., & Co., Galt, Ont.—Edge tools for wood, iron, and stone. 280
325 Booth, G., Toronto, Ont.—Engine and pipe wrench. 280
327 Chapleau, Godfroi, Montreal, Q.—Limestone cutters' tools. 280
328 Gilmour, G., Cote St. Paul, Q.—Augers and bits. 280
329 Boivin & Co., New Liverpool, Q.—Axes and edge tools. 280
332 Spiller Bros., St. John, N. B.—Edge tools and cutlery. 280
335 Broad, E., St. John, N. B.—Axes, edge tools, hammers. 280
339 Morley, Victoria, Br. Col.—Carpenters' mallets, yew and arbutus. 280
340 Cable, Bayard, & Co., Montreal, Q.—Adjustable elastic razor strop. 281
341 Whelpley, J. Albert, Greenwich, N. B.—Skates. 281

342 Starr Manufacturing Co., Halifax, N. S.—Skates. Acme, Club, Forbes' patent, sold largely in Russia, Sweden, Norway, Denmark, France, England, and United States. Being self-fastening, it possesses great merit for convenience. Quality superior. 281

343 Fenerty, E. L., & Co., Halifax, N. S.—Skates. 281

344 Copp Brothers, Hamilton, Ont.—Enameled ware. 283

347 Laidlaw, A. & Co., Hamilton, Ont.—Enameled hollow ware. 283

348 Dixon, Smith, & Co., Toronto, Ont.—Enameled plumbers' ware. 284

349 Dixon, Smith, & Co., Toronto, Ont.—Sash fastener. 284

352 Campbell, Geo., Toronto, Ont.—Fireproof shutters. 284

353 Gibbs, Geo., & Co., Port Hope, Ont.—Nuts and bolts. 284

354 Law, John, London, Ont.—Brass work. Our mica slit lubricator will bear high pressure, is transparent, will not break. Our water-gauge glass guard and new mode of packing is very durable. Law's patent tar and petroleum burner demonstrates gas tar and petroleum tar as a good and handy fuel. A quarter-inch stream of tar will give fifty horse-power sure. 284

355 Griffith & Co., Toronto, Ont.—Locks and latches. 284

356 Brisley, W., Toronto, Ont.—Clip hook. 284

358 Stringer, Jos., Kingston, Ont.—Locks. 284

359 Cavern & Button, Gananoque, Ont.—Hinges and nails. 284

360 Ritchie, John, & Son, Toronto, Ont.—Brass work. 284

363 Pillow, Hersey, & Co., Montreal, Q.—Tacks, nails, spikes, horseshoes. American export agents and foreign visitors interested in this class of goods will do well to examine them. We endeavor to please all in executing orders intrusted to us. They can be sold at prices that must induce buyers. 284

365 Ives, H. R., Montreal, Q.—General hardware. 284

370 Belanger, Vinet, & Dupart, Montreal, Q.—Axles. 284

373 Foster, S. R., & Son, St. John, N. B.—Tacks, nails. 284

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383 Nelson, H. A., & Sons, Montreal, Q.—Brooms. 286

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387 Copeland, Geo., Hamilton, Ont.—Cordage and twine. 287
390 Conner, Thos., & Sons, St. John, N. B.—Cords, ties, lines. 287
391 The Dartmouth Ropework Co., Halifax, Nova Scotia—Manilla cordage and bolt rope, and tarred manilla lanyards, four-strand tarred Russian hemp cordage and ratline. No. 1 navy, navy, and patent new stock oakum in 50-pound bundles, and the same qualities spun, ready for calkers to drive. The patent new stock oakum is made entirely from hemp and tow, tarred upon their own machinery, patented December 30, 1873. It can be carded or spun directly from tarring machine, the finished oakum being completed within the hour. 287
392 Bridge, Andrew, West Brook, Ont.—Pails and tubs. 289
393 Clerke & Co., St. John, N. B.—Lasts for boots and shoes. 289
394 Hall, G. B., Quebec, Q.—Tubs, pails. 289
396 Peacock, W., Montreal, Q.—Crick-et bats. 289
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432 Skellington, S., Bros., Windsor, Ont.—Whip lashes. 296
433 Borbridge, S. & H., Ottawa, Ont.—Harness. 296
434 Vahey, W., Forrest, Ont.—Collars and machine. 296
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439 Weichel, M., Elmira, Ont.—Horse-shoes. 296
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441 Malcolm, R., Toronto, Ont.—Saddlery, harness, bags. 296
442 Cable, Bayard, & Co., Montreal, Q.—Halter clasps. 296
446 Culbert, W. H., Sussex, N. B.—Harness, collars. 296
449 Campbell & Fowler, St. John, N. B.—Springs and axles. 296
450 Clarke, R., & Co., St. John, N. B.—Lasts. 533
451 Bradshaw, T. H., St. Martin's, N. B.—Ship models. 594
452 Bradshaw, J. D., St. Martin's, N. B.—Ship models. 594
453 Date, John, Montreal, Q.—Diving apparatus. 594
454 Skinner, G. M., Gananoque, Ont.—Fishing tackle. 647
455 Scribner, D., St. John, N. B.—Salmon and trout rods. 647

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

FRANCE.

(North of Nave, Columns 39 to 53.)

Chemical Manufactures.

Chemical Manufactures.

- 1 Grillon, E., Paris.—Indian dates. 200
- 2 Coignet, Father & Son, & Co., Paris.—Chemical and pasture products. 200
- 3 Galzy, E., Lyons.—Insect products. 200
- 4 Fournier, Jean, Roanne, Loire.—Cream of tartar. 200
- 5 Hygienic Products Manufacturing Co., Paris.—Chemical preparations. 200
- 6 Limousin, Paris.—Pharmaceutical preparations; medicated capsules. 200
- 7 Limousin & Co., Paris.—Medicated capsules. 200
- 8 Michel, Pyrrhus, Vaison, Vaucluse.—Digestive elixir and vermifuge. 200
- 9 Rigollot & Co., Paris.—Mustard poultice and instantaneous plaster. 200
- 10 Rouault, Ch., Paris.—Syrup of iron and tar. 200
- 11 Audibras, Paris.—Anti-scorbutic elixir. 200
- 12 Baudon, Paris.—Wine of anti-mony. 200
- 13 Boude & Son, Marseilles.—Refined sulphur. 200
- 14 Beslier, A., Paris.—Pharmaceutical preparations. 200
- 15 Brasseur, Romorantin, Loir & Cher.—Pectoral tonic syrup. 200
- 16 Bravais, Rouel, & Co., Paris.—Pharmaceutical preparations. 200
- 17 Chevrier, Paris.—Pharmaceutical preparations. 200
- 18 Cléry, Hughes, Paris.—Pharmaceutical preparations. 200
- 19 Vicat, Joseph Henri, Paris.
a Insect powder, and instruments for its use. 200
b Liquid blacking. 202
- 20 Tancrede Bros., Paris.—Glue and gelatin, animal charcoal, bone tallow. 200
- 21 Daubin & Co., Paris.—Fly-paper and mosquito powder. 200
- 22 Druelle, Reims, Marne.—Champagne wines. 200
- 23 Dubois, Charles, Marseilles.—Special chemical preparations for the navy. 200
- 24 Garnier, P., Noyon, Oise.—Pharmaceutical preparations. 200
- 25 Ducro & Co., Paris.—Meat extract. 200
- 26 Jacquand, Father & Son, Lyons.—Glues, gelatins, bone phosphates, etc. 200
- 27 Joseph, Victor, Petit Quévilly, near Rouen.—Oil for burns. 200
- 28 Lefebvre, Fortuné, Illiers, Eure & Loire.—Green water. 200
- 29 Reynal, Léonce, Paris.—Pharmaceutical preparations. 200
- 30 Rigand & Dusard, Paris.—Chemical and pharmaceutical preparations. 200
- 31 Rubaton, Ges., & Co., Marseilles.—Carbonate of soda. 200
- 32 Solvay & Co., Varangeville, Dombsle, Mewithe and Moselle.—Chemical products. 200
- 33 Torchon, Ch., Paris.—Pharmaceutical preparations. 200
- 34 Hottot, A., & Co., Paris.—Pepsin and other digestive preparations. 200
- 35 Thomas Brothers, Avignon, Vaucluse.
a Chemical products; artificial alizarine, sulphuric acid, etc. 200
b Madders. 202
- 36 Coux Roseaux, Asnieres, near Paris.—Oils and greases; covering for steam pipes. 201
- 37 Poirot & Son, Paris.—Soap in the form of letters and various ornaments. 201
- 38 Bourgeois & Co., Paris.—Machine oils. 201
- 39 Jolivet, L., Paris.—Wax tapers. 201
- 40 Deutsch, A., Paris.—Machine oils; refined petroleum. 201
- 41 Chivot, Naudé, Amiens, Somme.—Machine oils. 201
- 42 Roux, Charles, jr., Marseilles.—Soaps and raw materials; olive oil for dyers. 201
- 43 Rigaud & Co., Paris.
a Toilet soaps. 201
b Perfumery. 203
- 44 Violet, Godefroy, & Co., Paris.
a Soaps. 201
b Fine perfumery and raw materials. 203
- 45 Richter, F., Lille, Nord.—Ultramarine blue. 202
- 46 Berthoud & Co., Paris.—Blackening. 202
- 47 Antoine's, L., Son, Paris.—Writing inks. 202
- 48 Chiraux, L., Cambray.—Blackening. 202
- 49 Clauseau, Father & Son, Palun & Co., Avignon, Vaucluse.—Madder extract. 202
- 50 Coez, E., & Co., St. Denis.—Paints and varnishes. 202
- 51 Julien, A., & Co., Marseilles.—Chemical products, submarine paint. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48

Chemicals, Ceramics, Furniture.

- 52 Bourgeois, senior, Paris.—Fine colors for painting and drawing. 202
- 53 Caron, L., Paris.—Cement and plaster dryer. 202
- 54 Guinon's Son & Co., Lyons.—Chemical products for dyeing and printing. 202
- 55 Gillet & Son, Lyons.—Chemical products for dyeing. 202
- 56 Guimet, Lyons.—Ultramarine blue. 202
- 57 Hardy, Milori, Ch. G., Paris.—Colors. 202
- 58 Jacquot & Co., Paris.—Blackening. 202
- 59 Kaulek, Adolphe, Puteaux, Seine.—Coloring materials. 202
- 60 Larenaudière, F., Paris.—Inks. 202
- 61 Lacroix, A., Paris.—Vitrifiable colors for china, faience, church windows, opal, and enamel. 202
- 62 Lorilleux, Ch., Paris.—Black and colored typographic and lithographic inks. 202
- 63 Plateau, E., Paris.—Writing inks. 202
- 64 Poirrier, A., Paris.—Chemical products, coloring materials. 202
- 65 Seurin, J., Paris.—Varnish, mastic, and oil colors. 202
- 66 Toiray, Maurin, Paris.—Writing inks. 202
- 67 Foubert, A., Paris.—Hair dyes. 202
- 68 Brochoccki, C. D., & Co., Boulogne, Seine.—Javelle water. 203
- 69 Chiris, A., Grasse, Alpes Maritimes.—Perfumery and raw materials. 203
- 70 Colas, E., & Christoff, C., Paris.—Essence of roses. 213
- 71 Delettrez, Adolphe, Paris.—Perfumery. 203
- 71a Chouet & Co., Paris.—Dentifrice water. 203
- 72 Hermann, Louis, Paris.—Raw materials for perfumery. 203
- 73 Lautier Sons, Grasse, Alpes Maritimes.—Pomades, essential oils, essences, etc. 203
- 74 Mottett, J., & Co., Marseilles.—Raw materials for perfumery. 203
- 75 Roure, Bertrand, Son, Grasse, Alpes Maritimes.—Raw materials for perfumery; extracts and essences. 203
- 76 Seguin, Bordeaux.—Zenobia water and dyes. 203
- 77 Sensfelder, Arcueil, Seine.—Eye water and pomades. 203
- 78 Viard, F., Paris.—Perfumery. 203
- 79 Viguiet, Manager French Hygienic Society, Paris.—Fragro water. 203
- 80 Séguin, Paris.—Aithocinum. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 84 Goyard, F., Paris.—Crucibles and furnaces for laboratories. 207
- 85 Simons & Co., Cateau (Nord).—Mosaic tiles of sandstone in vestibule of Department of Public Works Pavilion. 208
- 86 Muller, E., & Co., Ivry (Seine).—Enamelled tiles in the vestibule and on the front of Department of Public Works Pavilion. 208

- 87 Ollive, A., Paris.—Faience pavements. 208
- 88 Trichaud, A., Marseilles.—Tiles. 208
- 89 Boulenger, senior, Paris.—Incrusted mosaic pavement. 208
- 90 Gien Pottery Mfg. Co., Gien (Loiret).—Artistic faience. 210
- 91 Caille, Miss Fanny, Paris.—Artistic faience. 210
- 92 Montagnon, A., Nevers.—Artistic faience. 210
- 93 Howry, J., Paris.—Artistic china and faience, fancy furniture. 210
- 94 Hasslauer & de Champeaux, Givet (Ardennes).—Clay pipes. 210
- 95 Aubry, J., Bellevue (near Toul).—Artistic faience. 210
- 96 Fiolet, L., St. Omer (Pas de Calais).—Clay pipes. 210
- 97 Brianchon, J., senior, Paris. 210
4 Artistic faience. 210
6 Pearl porcelain. 213
- 98 Sergeant, Th., Paris.—Artistic faience. 211
- 99 Barbizet, Son, Paris.—Bernard Palissy faience. 211
- 100 Sohn, L., & Delabre, A., Paris.—Porcelain flowers, jewels, ornaments, crowns, and bouquets. 212
- 101 Woodcock, F., Paris.—Porcelain flowers and bouquet. 212
- 102 Blot, Paul, Paris.—China and glass. 213
- 103 Détemmerman, P., Paris.—Porcelain flowers. 213
- 104 Vacquerel, P. E., Paris.—Decalcomania on porcelain. 213
- 105 Thierry, Paris.—Decorated china. 213
- 106 Field-Haviland, Ch., Paris.—Porcelain. 213
- 107 Hache, Ad., & Lehalleur Bros., Paris.—White and decorated porcelain. 213
- 108 Haviland & Co., Limoges.—China. 213
- 109 Floreffe Company, Jeumont (Nord).—Mirrors and glassware. 214
- 110 St. Gobain, Chauny, & Cirey, Paris.—Plain, plated, and silvered glass; rough glass for skylights. 214
- 111 Pelletier, M. A., & Sons, St. Just on the Loire.—Stained window glass. 216
- 112 Appert, Lengele, & Co., Paris.—Glass cylinders. 216
- 113 Brocard, P. J., Paris.—Chandeliers and mirrors. 216
- 114 Souchet & Co., Paris.—Flowers in enamel. 216
- 115 Hue & Co., Paris.—Crystals for interior decorations. 216

Furniture and Objects of General Use in Construction and in Dwellings.

- 116 Raffi & Co., Paris.—Church statues and furniture. 217
- 117 Poussielgue, Ruand P., Paris.—Church decorations. 217
- 118 Perrot, Henry, Paris.—Bronzes for furniture. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Glassware, Heating and Lighting Apparatus.

- 119 Parfony & Lemaire, Paris.—Marble chimney pieces. 217
- 120 Touchard, Ernest, Paris.—Special ornaments for churches. 217
- 121 Duplan, Hamot, & Co., Paris.—Furniture. 217
- 122 Brunet, Paul, Paris.—Bronze and goldsmiths' wares for churches. 217
- 123 Morel, A., Paris.—Bronzes for furniture. 217
- 124 Michel, Louis, Toulouse.—Church decorations. 217
- 125 Mazaroz, Ribalier, Paris.—Artistic furniture. 217
- 126 Marga, Eugene, Paris.—Marble chimney piece. 217
- 127 Mayaud Bros., Paris.—Religious articles. 217
- 128 Marchand, I., Paris.—Decorated furniture. 217
- 129 Marchand, Louis-Léon, Paris.—Artistic bronzes for furniture. 217
- 130 Lichtenfelder, Paris.—Elastic steel seats. 217
- 131 Haffner, B., senior, Paris.—Safes with combination locks. 217
- 132 Kaffel Bros., Paris.—Bronze furniture with china, faience, crystal, and marble decorations. 217
- 133 Jolivet, L., Paris.—Candles for churches. 217
- 134 Houry, T., Paris.—Fancy furniture. 217
- 135 Gallais, A., Paris.—Lacquered furniture. 217
- 136 Froc, Robert, & Son, Paris.—Altars and religious statues. 217
- 136a Allard, Paris.—Furniture. 217
- 137 Eliaers, A. E., Paris.—Folding seats. 217
- 138 Cornu, E., & Co., Paris.—Bronzes. 217
- 139 Chovet, L., Paris.—Religious pictures. 217
- 140 Beysens & Beckers, Paris.—Religious articles. 217
- 141 Susse Brothers, Paris.—Bronzes. 217
- 142 Sussfeld, Lorsch, & Co., Paris.—Marble clocks. 217
- 143 Sauvage & Ruck, Paris.—Bronze mantel ornaments. 217
- 144 Frenais, Armand, Paris.—Unplated and plated knives, forks, and spoons. 218
- 145 Bitterlin, Paul, jr., Paris.—Glassware. 218
- 147 Haviland & Co., Limoges.—Table china. 218
- 148 Field-Haviland, Ch., Paris.—Table china. 218
- 149 Hache, Ad., & Pepin, Lehalleur Bros., Paris.—Table china. 218
- 150 Bitterlin, Son, Paris.—Glassware. 218
- 151 Blot, Paul, Paris.—Table glass and chinaware. 218
- 152 Lorin, A., Chartres (Eure & Loir).—Stained glass church windows. 219
- 153 Brocard, P. T., Paris.—Emdeane glass. 219
- 155 Chabin, H., Paris.—Stained glass windows. 219
- 156 St. Gobain, Chauny, & Cirey, Paris.—Mirrors. 219
- 157 Mansuy-Dotin, Jules, Paris.—Artistic enamels for furniture. 219
- 158 Pelletier, M. A., & Sons, St. Just sur Loire.—Stained window glass. 219
- 159 Pottier, Paris.—Artistic enamels, Limousin and Henry II. style. 219
- 159a Brot, Leopold, Paris.—Mirrors in gilt frames; mirrors in furniture. 219
- 160 Thiry, jr., Paris.
a Galvanized iron bird cage. 219
b Forged iron pavilion. 227
- 161 Luttringer, Ch., Paris.—Pasteboard frames. 220
- 162 Neuville, J. B., Paris.—Heating apparatus. 222
- 163 Laperche, Paris.—Marble chimney pieces. 222
- 163a Bouhon & Co., Paris.—Bronze fire guards. 222
- 164 Aubry, T., Bellevue, near Toul.—Faience stoves. 222
- 165 Entz, H., Wazcon, near Sedan.—Portable cooking range used in the army. 222
- 166 Roux, L., Lyons.—Heaters and chimney pieces. 222
- 167 Robinot, Ch., Paris.—Gas fixtures. 223
- 168 Corbon, Paris.—Lamps. 223
- 169 Peltier, E., & Paillard, A., Paris.—Metallic labels and boxes for preserves; direct printing upon metals. 224
- 170 Barau & Colas, Nantes (à la Ville en Bois).—Metallic jars for preserving. 224
- 171 Mestre, A. de, Bordeaux.—Apparatus for corking gaseous liquids. 224
- 172 Letang, Th. I. B., Paris.—Chocolate moulds. 224
- 173 Gervais, A., & Co., Paris.—Kettles. 224
- 174 Fisse, Thirion, & Co., Reims.—Iron clasps; system of corking wines. 224
- 175 Denet, E., Paris.—Copper moulds for alimentary pastes. 224
- 176 Dagand, Etienne, Paris.
a Coffee pots used by the army, navy, steamships, and public establishments. 224
b Hot water baths. 226
- 177 Dienheim-Brochocki, T. O. de, Paris.—Automatic disinfectors. 226
- 178 Chappée, A., Mans (Sarthe).—Iron water and gas pipes. 227
- 179 Richard, B., Longecourt, near Aisery (Cote d'or).—Massive floor with borders. 227
- 180 Regnier, Paris.—Economic wooden ridge of a house. 227

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-18

Woven Goods, Silk.

- 181 Bonhomme, Uncle & Nephew, Paris.—Wooden doors of the vestibule, and wainscoting and frames of the drawings of the Department of Public Works Pavilion. 227
- 182 Moisan, A., Paris.—Metallic frame of Department of Public Works Exhibition Pavilion. 227
- 183 Secretan, E., Paris.—Coppersheets for construction. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 184 Pallu, Eug., & Co., Mahé (Seychelle Island).—Cocoon fibres. 229
- 185 Dumortier & Cuignet, Roubaix (Nord).—Tickings. 230
- 186 Cartier-Bresson, Paris.—Cotton threads. 230
- 187 Perreaux, L. G., Paris.—Model of a military tent. 230
- 188 Walcker, W., Paris.—Military and garden tents. 230
- 189 Chiffroy, A., Maronne, near Rouen.—Prints and calicoes. 232
- 190 Roussel, Emile, Roubaix (Nord).—Dyed and printed cotton fabrics. 232
- 191 Vraux & Co., Paris.—Linen thread. 233
- 192 Meunier & Co., Paris.—Linen and linen table covers. 233
- 192a Vrau & Co., Paris.—Linen and thread. 233
- 193 Hassebroeck Brothers, Comines (Nord).—Linen threads. 233
- 194 Vrau & Co., Lille.—Hemp thread for sewing. 233

Woven and Felted Goods of Wool, etc.

- 195 Demar, L., Elbeuf (Seine Inférieure).—Gentlemen's dress goods. 235
- 196 Dumortier & Cuignet, Roubaix (Nord).—Cloth. 235
- 197 Prouvost, Amédée, & Co., Roubaix.—Carded wools. 235
- 198 Chamber of Commerce, Reims.—Woolen fabrics. 235
- 199 Delamo e-Mongrenier, Reims (Marne).—Dyed merinoes, cashmeres, reps, etc. 235
- 200 Seydoux, Sieber, & Co., Paris.—Carded threads and woolen fabrics. 235
- 201 Talamon, Son, & Co., Paris.—Woolen fabrics. 235
- 202 Bellest, E., & Co., Elbeuf.—Woolen cloth. 235
- 203 Blin & Bloch, Elbeuf (Seine Inférieure).—Woolen cloth. 235
- 204 Decaux, Son, Elbeuf.—Woolen cloth. 235
- 205 Dabert & Co., Saint Denis (Seine).—Dyed woolen fabrics. 235
- 206 Fortin Bros., Paris.—Felts. 235
- 207 Fouchet, sr. & jr., & Hulme, Elbeuf.—Cloth. 235
- 208 Frézon, senior, & Leclerc, senior, Amiens.—Cloth. 235
- 209 Philippe, C., Elbeuf (Seine Inférieure).—Cloth for pants and vests. 235

- 210 Mali, Henry W. T., & Co., Paris.—Woolen fabrics and cloth. 235
- 211 Pinon & Guérin, Paris.
a Cloth for men's wear. 235
b Novelties for females' wear. 238
- 212 Reynaud, Paris.—Medicated flannel. 236
- 213 Terrillon, L., Paris.—Shawls. 237
- 214 Robert, Guérin, Widow, & Son, Reims (Marne).—Merinoes and Scotch cashmeres. 238
- 215 Houpin, Ernest, Reims (Marne).—Dyed merinoes, cashmeres, reps, etc. 238
- 216 Maes, G., Clichy-la-Garonne.—Dyed woolen fabrics. 238
- 217 Dufourmantel, Ph., & Co., Corbie (Somme).—Woolen and silk warps. 238
- 218 Chalamel, Alf., & Co., Paris.—Dyed woolen fabrics. 238
- 219 Laroche, A., Saulxures (Vosges).—Cotton and wool, with process of manufacture. 238
- 220 Drogue & Monnard, Lyons.—Poplins. 238
- 221 Droz, Juillet, & Co., Lyons.—Poplins. 238
- 222 Gravier, Clément, Nîmes (Gard).—Velvet carpets 239
- 223 Duplan, Hamot, & Co., Paris.—Carpets. 239
- 224 Bertrand, Boulla, Nîmes (Gard).—Imitations of old tapestries. 239
- 225 Braquenie Brothers, Paris.—Tapestries and carpets. 239
- 226 Grison, T., & Co., Lisieux (Calvados).—Dyed and printed cloth. 241
- 227 Guillaumet, A., Sons, Suresnes (Seine).—Dyed woolen fabrics. 241
- 228 Boquet, J., & Co., Amiens.—Velvet. 241
- 229 Chiffroy, A., Maromme, near Rouen.—Printed woolen fabrics. 241
- 230 Roussel, Emile, Roubaix (Nord).—Dyed and printed woolen fabrics. 241
- 231 Piquet, F., & Bros., Paris.—Reps and velvets. 241
- 232 Poirrier-Mortier & Muller, Paris.—Dyed fabrics. 241
- 233 Vanoutryve, F., & Co., Paris.—Furniture coverings. 241
- 234 Wattine, Ch., & Co., Roubaix (Nord).—Furniture coverings and draperies. 241
- 235 Montagnac, E. de, & Son, Sedan (Ardennes).—Velvet. 241
- 236 Dupont, L., Paris.—Furniture coverings. 241

Silk and Silk Fabrics.

- 237 Pellet, A. P., St. Jean du Gard.—Raw silk. 242
- 238 Arles, Dufour, Lyons.—Raw silk. 242
- 239 Boudon, Louis, St. Jean du Gard.—Raw silk. 242
- 240 Chabert, J., & Co., Chomerae (Ardèche).
a Raw silk. 2
b Woven silks.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

Silk, Clothing.

- | | | | |
|--|-----|--|-----|
| 241 Thomas Brothers, Avignon (Vaucluse). | | 270 Million & Servier, Lyons. | |
| a Raw silk. | 242 | a Silks. | 245 |
| b Silks. | 245 | b Velvets. | 247 |
| 242 Thomas, F., Pont-des-Charrettes (Gard). | | 271 Champromy, J. B., Renaison (Loire). | |
| a Cocoons and raw silk. | 242 | a Foulards. | 245 |
| b Silks. | 245 | b Ribbons. | 248 |
| 243 Bonnet & Co., Lyons. | | 272 Gourd, Croizat, Son, & Dubost, Lyons.—Silks. | 240 |
| a Raw silk. | 242 | 273 Henry, J. A., Lyons.—Silk fabrics for church ornaments and furniture. | 246 |
| b Failles, taffetas, and satins. | 245 | 274 Luthringer, Lyons.—Figured silks. | 246 |
| 244 Chardin, Ernest, Paris.—Sewing and embroidery silks. | 243 | 275 Tassinari & Chatel, Lyons.—Silks for church ornaments and furniture. | 246 |
| 244a Poydebard, St. Paul-on-Jarret, Loire.—Sewing silk. | 243 | 276 Chiffroy, A., Maromme, near Rouen.—Printing upon silk. | 246 |
| 245 Hamelin, A., Son, Paris.—Silks. | 244 | 277 Servant, C. J., & Co., Lyons.—Black velvets. | 247 |
| 246 Faye & Thévenin, Lyons.—Colored silks. | 245 | 278 Montessuy & Chomer, Lyons.—Crapes. | 247 |
| 246a Droz, Juliet & Co., Lyons.—Silks. | 245 | 279 Terrillon, L., Paris.—Fancy goods and handkerchiefs. | 247 |
| 247 Gascou, L. R., Montauban (Tarn and Garonne).—Bolting silk. | 245 | 280 Villard & Co., Lyons.—Black velvets. | 247 |
| 248 Gillett & Son, Lyons.—Black silks. | 245 | 281 Bouchinet, Paris.—Dress goods. | 247 |
| 249 Giraud, Alex., & Co., Lyons.—Colored silks and foulards. | 245 | 282 Gautier, Bellon, & Co., Lyons.—Velvets. | 247 |
| 250 Trapadoux, A. L., Bros., & Co., Lyons.—Foulards. | 245 | 283 Dornon, L., Lyons.—Silk gauzes for bolting flour, and sifting chemical and ceramic products. | 247 |
| 251 Poncet, senior & junior, Lyons.—Silks. | 245 | 284 Font, Chambeyron, & Benoit, Lyons.—Black velvets. | 247 |
| 252 Sévène, Barral, & Co., Lyons.—Failles. | 245 | 285 David, J. B., Saint-Etienne (Loire).—Ribbons. | 248 |
| 253 Tapissier Sons & Debry, Lyons.—Black silks, failles, and taffetas. | 245 | 285a Brionde, St. Etienne.—Velvet ribbons. | 248 |
| 254 Doux, E., & Co., Lyons.—Silks. | 245 | 286 Girou Brothers, St. Etienne (Loire).—Velvet ribbons. | 248 |
| 255 Mauvernay & Co., Lyons.—Silks. | 245 | 287 Lamary, Paris.—Silk watch guards. | 249 |
| 256 Lachard Bros. & Co., Lyons.—Lining silks. | 245 | | |
| 257 Jaubert, Audras, & Co., Lyons.—Black silks. | 245 | Clothing, Jewelry, and Ornaments; Traveling Equipments. | |
| 258 Jaudin & Duval, Lyons.—Foulards. | 245 | 288 Lutton, Am., Paris.—Chasubles. | 250 |
| 259 Brosset-Heckel & Co., Lyons.—Satins. | 245 | 289 Fromage, Lucien, & Co., Rouen.—Braces, belts, garters, and elastic tissues. | 250 |
| 260 Audibert, Monin, & Co., Lyons.—Silks and poplins. | 245 | 290 Tabourot & Pacault, Paris.—Shirts. | 250 |
| 261 Bardon & Riton, Lyons.—Colored silks. | 245 | 291 Vessiere-Paulin, J. A., Paris.—Children's clothing. | 250 |
| 262 Bulloet, C., Paris.—Millinery goods. | 245 | 292 Vauthier, Mrs., Paris.—Children's clothing. | 250 |
| 263 Huber, E., & Co., Paris.—Silk plush for hatters. | 245 | 293 Tailors' Society, Paris.—Gentlemen's clothing. | 250 |
| 264 Tabard, Benoit, & Co., Lyons. | | 294 Bulloet, C., Paris.—Silk stockings. | 250 |
| a Silks and failles. | 245 | 295 Levillon, Paris.—Ladies' costumes and trimmings. | 250 |
| b Moire antiques. | 246 | 296 Lenoir, P., Paris.—Corsets. | 250 |
| 265 Bressen-Agnès & Co., Lyons. | | 297 Fouet, Mrs., Paris.—Ladies' underwear. | 250 |
| a Silks. | 245 | 298 Farcy & Oppenheim, Paris.—Corsets. | 250 |
| b Gauzes. | 247 | 299 Society of United Cutters, Paris.—Gentlemen's furnishing goods. | 250 |
| 266 Guinet, Ant., & Co., Lyons. | | | |
| a Black silks. | 245 | | |
| b Velvets. | 247 | | |
| 267 Jurie, A., & Co., Lyons. | | | |
| a Silks. | 245 | | |
| b Velvets. | 247 | | |
| 268 Gondard, Cirlot, & Martel, Lyons. | | | |
| a Foulards. | 245 | | |
| b Velvets. | 247 | | |
| 269 Martin, J. B., Tarare (Rhône). | | | |
| a Silks. | 245 | | |
| b Plush and velvets. | 247 | | |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-18.

Clothing, Jewelry.

- 300 Vasseur, Mrs. Virginie, Paris.
a Traveling and court dresses; cloaks. 250
b Laces. 252
- 301 Herth, Henry, Paris.—Boots and shoes. 251
- 302 Jouvin & Co., Paris.—Kid gloves. 251
- 303 Tréfousse & Co., Chaumont (Haute-Marne).—Kid gloves. 251
- 304 Poron Bros., Troyes (Aube).—Millinery. 251
- 305 Jouvin, Mrs. Xavier, Paris.—Kid gloves. 251
- 306 Jeandron-Ferry, Paris.—Ladies' boots and shoes. 251
- 307 Jugla, D., Paris.—Kid gloves. 251
- 308 Méliès, Louis Stanislas, Paris.—Boots and shoes. 251
- 309 Nemoz, Pierre, Paris.—Ladies' and children's felt hats. 251
- 309a Legendre, Paris.—Boots and shoes. 251
- 310 Ruffin, J. B., Paris.—Hats for ladies and children. 251
- 311 Berr, Eugène, Paris.—Kid gloves. 251
- 311a Guibert, jr., Paris.—Gloves. 251
- 312 Bullot, C., Paris.—Millinery. 251
- 313 Buscarlet, Widow, & Malo, Paris.—Kid gloves and skins. 251
- 314 Shoemakers' Society, Paris.—Boots and shoes. 251
- 315 Chapsal, Auguste, Aurillac (Cantal).—Waterproof shoes. 251
- 316 Dubois, Gustave, Mony (Oise).—Boots and shoes. 251
- 317 Corady, Julia de, Paris.—Millinery. 251
- 318 Pinet, F., Paris.—Boots and shoes for ladies and children. 251
- 319 Huard, L., Paris.—Boots and shoes. 251
- 320 Hègle-Glandines & Corbeau, Paris.—Gloves. 251
- 321 Bacquet & Co., Saint-Pierre-les-Calais.—Machine-made laces. 252
- 322 Babey, Ch., Calais.—Tulles and embroïleries. 252
- 323 Bailey, Alfred, Paris.—Tulles and gimp for furniture. 252
- 324 Boutenjeun, Saint-Pierre-les-Calais.—Machine-made laces. 252
- 326 Maxton, Robert, & Co., Saint-Pierre-les-Calais.—Machine-made laces. 252
- 327 Meunier & Co., Paris.—Embroidered curtains. 252
- 328 Millas, Toulouse.—Gimps for furniture. 252
- 328a Galoppe & Tragin, Paris.—Laces. 252
- 329 Herbelot & Devaux, Calais.—Blonde and laces. 252
- 330 Dieutegard, E. & E., Paris.—Trimnings. 252
- 331 Dognin & Co., Paris.—Lama, India, and Chantilly laces. 252
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378 Dehors, A., Paris.—Toys. 254
379 Delivré, L., Paris.—Artificial flowers. 254
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435 Canson & Montgolfier, Paris.—

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435^a Lortie, Paris.—Bookbinding. 261**436 Hutinet, D., Paris.—Bristol board and cards.** 262**437 Laroche, A., Saulxures (Vosges).—**
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Decorative paintings for apartments and fireboards. 263**440 Roger & Montlouis, Paris.—Wall papers.** 264**Weapons, etc.****441 Gévelot, Paris.—Guns and ammunition.** 265**442 Jullien & Gauthey Bros., Paris.—**
Metallic cartridges. 265**443 Lafitteau & Rieger, Paris.—Fancy arms.** 269**Medicine, Surgery, Prothesis.****444 Badiole, Henry, Tarbes (Hautes-Pyrénées).—Medicines.** 272**446 Vie, Garnier, & Co., Paris.—Pharmaceutical preparations.** 272**447 Valby, Dijon.—Medicinal capsules and pills.** 272**448 Limousin, Paris.—Machine for the manufacture of capsules, and apparatus for inhaling oxygen gas.** 274**449 Reynal, Léonce, Paris.—Physicians' case.** 274**450 Brière, Jules, Alençon (Orne).—**
Hygienic nipples. 274**451 Benas, Jean Pierre, Paris.—Rubber surgical instruments.** 276**452 Vergne & Chose Bros., Paris.—**
Rubber surgical instruments. 276**453 Rondeau Bros., Paris.—Rubber surgical instruments, truss.** 276**454 Eliaers, A. E., Paris.—Chairs for invalids.** 278**Hardware, Edge Tools, Cutlery, and Metallic Products.****455 Lichtenfelder, Paris.—Locksmiths' tools.** 280**455^a Segant, Paris.—Shoemakers' tools.** 280**456 Pottecher, B., Bussang (Vosges).—**
Iron covers and currycombs. 280**457 Dugoujon, J., senior, Paris.—Saws.** 280**458 Limet, Lapareillé, & Co., Paris.—**
Files. 280**459 Rheims, Anatole, Paris.—Military equipments; screws.** 280**460 Guillemin, Renaut, Nogent (Haute-Marne).—Cutlery.** 281**461 Girard, Charles, Nogent (Haute-Marne).—Cutlery.** 281**462 Sommelet, Courcelles (Haute-Marne).—Cutlery.** 281**463 Thévenot, Felix, Nogent (Haute-Marne).—Cutlery.** 281**464 Thinet, Paris.—Cutlery.** 281**465 Vitry Bros., Paris.—Cutlery.** 281**466 Charbonne-Thuillier, J., Nogent (Haute-Marne).—Cutlery.** 281**467 Couvreur, Wichard, Nogent (Haute-Marne).—Pruning shears and cutlery.** 281**468 Thomachot - Thuillier, Nogent (Haute-Marne).—Scissors and pruning shears.** 281**469 Dissoire, Nogent (Haute-Marne).—**
Surgical instruments. 281**470 Denizet, Langres (Haute-Marne).—**
Cutlery. 281**470^a Scheidecker, Ch., Paris.—Shearing machines.** 281**470^b Pérard, V., Paris.—Sheep shearing machines.** 281**471 Chateau, Louis Auguste, Paris.—**
Emery paper and cloth for polishing glass. 282**472 Deplanque, senior, Maison-Alfort (Seine).—Whetstones.** 282**473 Dumas, Fremy, Mrs., Paris.—**
Emery paper and cloth. 282**474 Durrschmidt, Lyons.—Whetstones.** 282**475 Edeline, Amédée Jean, Paris.—Bur-**
nishing stones. 282**476 Fournier, Dondel & Co., Paris.—**
Metallic fire fenders and bronze articles. 283**478 Marchand, Louis Léon, Paris.—**
Bronzes. 283**479 Martin, Louis, Paris.—Sheet iron ornaments.** 283**480 Morel, A., Paris.—Bronze ornaments.** 283**481 Perrot, Henry, Paris.—Bronzes.** 283**482 Christoffe & Co., Paris.—Gold-**
smiths' ware. 283**483 Froment-Meurice, Paris.—Gold-**
smiths' ware. 283**484 Cornu, Eug., & Co., Paris.—**
Bronzes. 283**485 Poussielgue - Rusand, Paris.—**
Bronzes and plated ware for churches. 283**486 Sauvage & Rück, Paris.—**
Bronzes. 283**487 Tahon, Felix, Lille.—Forged cop-**
per plates. 283**488 Susse Bros., Paris.—Bronzes.** 283**489 Deny, Louis, Paris.—Construction materials.** 284**489^a Carmoy, Celestin, Paris.—Brass and steel nails.** 284**490 Anthoni, G., Levallois-Perret (Seine).—Axles and springs for carriages.** 284**491 Jeantaud & Co., Paris.—Carriage wheels.** 284**492 David-Damoiseau & Co., Paris.—**
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deliers and stove pipes. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

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- 494 Mage, senior, Lyons.—Woven wire for mattresses. 284
- 495 Sirot, C. & L., Charleville (Ardennes).—Nails. 284
- 496 Vachette Bros., Paris.—Locks for furniture. 284
- 497 Chappée, A., Le Mans (Sarthe).—Iron pipes for water and gas. 284
- 498 Chameroy & Co., Paris.—Water pipes and cocks. 284
- 499 Cazaubon, D., Paris.—Pumps and water closets. 284
- 500 Gallais, A., Paris.—Gilt nails. 284
- 501 Thiry, jr., Paris.—Artistic locksmiths' goods. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 502 Fromage, Lucien, & Co., Rouen.—Elastic fabric. 285
- 503 Bénas, Jean-Pierre, Paris.—Rubber surgical instruments. 285
- 504 Vergne & Chose Bros., Paris.—Rubber surgical instruments. 285
- 505 Rondeau Bros., Paris.—Rubber surgical instruments. 285
- 506 Vital, A., Paris.—Lithographic press rollers. 285
- 507 Deschamps, Mauroy, & Co., Paris.—Toilet brushes. 286
- 508 Dupont, A., Beauvais (Oise).—Toilet brushes and prepared bristles. 286
- 509 Loonen, F., Paris.—Brushes. 286
- 510 Pitet, senior & junior, Paris.—Brushes. 286
- 511 Rouillies & Co., Paris.—Carpet brushes. 286
- 512 Carue, Paris.—Ropes. 287
- 513 Arnold, E., Paris.—Metallic, glass, porcelain, and wooden letters; coats of arms of all nations. 288
- 514 Bornet, Paul, Paris.—Signs and leather letters. 288
- 515 Boudvillain, J., Paris.—Trophy of flags. 288
- 516 Pichot, E., Paris.—Ornamental labels. 288
- 517 Moitrier, Leon, Bénaménil (Meurthe).—Wicker baskets. 289
- 518 Policard, René, Paris.—Flower stands, etc. 289
- Carriages, Vehicles, and Accessories.**
- 519 Mühlbacher, Paris.—Carriages. 292
- 520 Gaudichet, Vierzon Cher.—Carriages. 292
- 521 Desouches, Paris.—Carriages. 292
- 522 Binder Bros., Paris.—Carriages. 292
- 523 Million, Guet, & Co., Paris.
a Carriages. 292
b Harness. 296
- 524 Perreaux, Paris.—Steam velocipede. 293
- 525 Huret, N., Paris.—Carriage. 293
- 526 Fortin Bros., Paris.—Harness felts. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Chemical Manufactures.

Chemical Manufactures.

COLLECTIVE EXHIBIT OF THE
GERMAN UNION OF MANUFACTURING
CHEMISTS. — MANUFACTURED CHEMICALS, ETC. 200-203

- 1 Kahlbaum, C. A. F., Berlin.
- 2 D'Andrian & Wegelin, Mülhausen.
- 3 Vorster & Grüneberg, Kalk, near Cologne.
- 4 Schuchardt, Theodor, Görlitz.
- 5 Koepp, Rud., & Co., Oestrich.
- 6 Saame & Co., Ludwigshafen.
- 7 Th. Wurtz's successors, Leipsic.
- 8 Von Heyden, F., Dresden.
- 9 Chemical Joint Stock Co., Berlin.
- 10 Jobst, Friedrich, Stuttgart.
- 11 Fischer & Schmitt, Höchst.
- 12 Brohme & Co., Bergen-on-Dosse.
- 13 Bartels & Kroyemann, Frohse.
- 14 Trommsdorff, H., Erfurt.
- 15 Lindenbauer, Otto, Hanau.
- 16 Marquart, L. C., Bonn.
- 17 Loefflund, Edward, Stuttgart.
- 18 Suhr, W., Altona.
- 19 Heyl, J. F., & Co., Berlin.
- 20 Sauberlich, Anton, Zwickau.
- 21 Bloedner's, Joh. Chr., Son, Gotha.
- 22 Hübner, B., Rehmsdorf.
- 23 Saxon Thuringian Joint Stock Co., Halle-on-Saale.
- 24 Ruffer & Co., Breslau.
- 25 Hsigen, G. C., Nassmühle, near Hanau.
- 26 Gans & Leonhardt, Frankfort-on-Main.
- 27 Clever, Joh., Werden.
- 28 Aniline Manufacturing Co., Rummelsburg and Berlin.
- 29 Zeltner, Johann, Nuremberg.
- 30 Gysae, Robert, Oberlössnitz.
- 31 Ultramarine Works, Marienberg.
- 32 Kaiserslautern Ultramarine Works, Kaiserslautern.
- 33 Rosenstein, W., Stettin.
- 34 Vossen Bros., Aix-la-Chapelle.
- 35 Hirsch & Merzenich, Cologne.
- 36 Bayer, Fr., & Co., Barmen.
- 37 Johann Anton Farina, zur Stadt Mailand, Cologne.
- 38 Mack, Ernst, Reichenhall.
- 41 Goedecke & Co., Leipsic.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

- 41a Honigman, M. & Co., Aix-la-Chapelle.
- 42 Kluge & Pöritzsch, Leipsic.
- 42a Sieperman, C. F., & Son, Elberfeld.
- 43 Bernhardt, J., Leipsic.
- 43a Gebens, Ernst, Baden-Baden.
- 44 Brückner, Lampe & Co., Leipsic.
- 45 Sachse, E., & Co., Leipsic.
- 46 Haensel, Heinrich, Pirna-on-Elbe.
- 47 Wolff, F., & Son, Karlsruhe.
- 48 Langwisch, Bernh., Hamburg.
- 49 Lohse, Gustav, Berlin.
- 50 Wilhelmi, F., Reudnitz.
- 51 Lüder & Leidloff, Dresden.
- 52 Kunheim & Co., Berlin.
- 53 Haarmann, W., Holzminden.
- 53a Royal Prussian & Ducal Brunswick Smelting Works of the Lower Hartz, Gaslar.—Sulphuric acid, intermediate products, etc. 200
- 54 Nörr, Eugene, Berlin.—Siphon valve. 200

STASSFURT COLLECTIVE
EXHIBIT.

- 54a Royal Salt Works, Stassfurt.—Rock salt, salts of potassium, magnesium, etc. 200
- 54b Chemical Factory, Stassfurt.—Potassium salts, chloride of potassium, manure salts, etc. 200
- 54c Chemical Factory, Leopoldshall.—Chloride of potassium, sulphate of potash, glauber salts, etc. 200
- 54d Chemical Factory of Nett, Faulwasser, & Co., Leopoldshall.—Chloride of potassium. 200
- 54e Zimmer & Co., Stassfurt.—Artificial salts of chloride of potassium, manure salts, etc. 200
- 54f Lindemann, G., & Co., Stassfurt.—Chloride of potassium. 200
- 54g Douglas, B. W. B., Westeregeln.—Salt, medical and manure salts; plans, section of the mine. 200
- 54h Lairitz, C. & L., Remda.—Pine oil. 201

COLLECTIVE EXHIBIT OF BAVARIAN METAL LEAF AND BRONZE COLORS. 202

- 55 Haenle, Leo, Munich.
- 57 Fuchs, Gg. L., & Sons, Fürth.
- 58 Nuchterlein, Fried., Fürth.
- 59 Metz, Friedrich, Fürth.
- 60 Stoeber & Segitz, Fürth.

Chemicals, Ceramics, Glass, Furniture.

- 61 Schaetzler, G. E., Nuremberg.
 62 Weidner, J. L. & P., Nuremberg.
 63 Reich, H. & Chr., Nuremberg.
 65 Eiermann & Tabor, Fürth.
 67 Spiegelberger, Ludwig, Fürth.
 68 Cramer, J. W., Fürth.
 69 Beckh, Georg Adam, Nuremberg.
 71 Kühn's Wire Factory, Nuremberg.
 72 Meier, J. C., Fürth, near Nuremberg.

- 73 Beyer, Edward, Chemnitz.—Copying, writing, and fancy inks. 202
 74 Jäenecke Bros. & F. Schneemann, Hanover.—Printing inks; varnishes. 202
 75 Vogel, M. B., Leipsic.—Colors. 202
 75a Lesser, G., & Co., Leipsic.—Preparations for finishing textile manufactures. 202
 76 Farina, Johann Maria, Jülichaplatz No. 4, Cologne.—Eau de Cologne. 203
 77 Farina, F. Maria, Glockengasse 4711, Cologne.—Eau de Cologne extracts, Florida water, soaps, and perfumery. 203
 78 Schimmel & Co., Leipsic.—Essential oils. 203
 79 Gadamer & Jaeger, Waldenburg.—Swedish matches. 204
 80 Hochstätter, Heinrich, Langen, near Darmstadt.—Matches. 204

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- 81 Mendheim, Georg, Berlin.—Clay goods. 206
 81a Lonitz, Hugo, Neuahaldensleben.—Jars, terra-cotta figures, etc. 206
 82 Gundlach Bros., Grossalmerode.—Crucibles and fire-bricks. 207
 83 Gundlach, W., & Son, Grossalmerode.—Fire-clay crucibles. 207
 84 Stettin Fire-brick Manufacturing Co.—Fire-brick retorts and fire-bricks. 207
 85 Gundlach, Joh., jr., Grossalmerode.—Crucibles and jars for ointments. 207
 86 Knodchen, J. A., Höhr.—Clay ware. 207
 87 Villeroy & Boch, Mettlach.—Mosaic tiles. 208
 87a Wagner & Starker, Stuttgart.—Parquet tiles. 208
 88 Telegraph Supply Manufacturing Co., Berlin.—Porcelain for chemical uses. 210
 89 Royal Porcelain Works, Berlin.—Porcelain, biscuit work, etc. 207
 90 Hanke, Reinhold, Höhr, near Coblenz.—Antique German pottery. 213
 91 Merkelbach & Wick, Grenzhäusen.—Pottery partly in the antique German style. 213
 92 Joint Stock Association of Looking-glass Manufacturers & Manufacturing Chemists of St. Gobain, Chauny and Cirey, & Tolberg, near Aix-la-Chapelle.—Looking-glass plates, mirrors, and rough glass. 214

COLLECTIVE EXHIBIT OF BAVARIAN LOOKING-GLASSES AND LOOKING-GLASS PLATE. 214

- 93 Schaller, Joh., Fürth.
 94 Vogel, G., Fürth.
 96 Berlin, J. W., Fürth.
 97 Heilbronn, Leop., Fürth.
 97a Winkler, Ch., & Son, Fürth.
 97b Wiederer, N., Fürth.
 97c Brann & Reich, Fürth.

- 98 Underberg-Albrecht, H., Rheinberg.—Bottles. 215
 99 Greiner, Elias, Cousin's Son, Lauscha, near Sonneberg.—Enameling colors. 216

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- 100 Friedrich, O. B., Dresden.—Fancy furniture. 217
 101 Gutte, Louis, Görlitz.—Wood carving. 217
 101a Vogts, F., & Co., Berlin.—Furniture. 217
 102 Kimbel, Martin, Breslau.—Fancy furniture, etc. 217
 103 Schöttle, Georg, Stuttgart.—Furniture. 217
 106 Völker, Otto, Berlin.—Carved furniture. 226
 107 Tenner, A. B., Eisfeld.—Wooden rolling blinds. 217
 108 German Sewing Machine Factory, Frankfurt-on-Main.—Ship furniture for the prevention of sea-sickness. 217
 109 Neuhausen, J., Berlin.—Billiard table. 217
 110 Bahse & Haendel, Chemnitz.—School desk and bench. 217
 111 Mayer's Art Institution for the Manufacture of Church Furniture and Decorations, Munich.—Wooden statues and altars. 217
 113 Friedrich, Hch. Ottm., Bielefeld, near Schwarzenberg.—Tin-plated iron spoons and forks. 213
 114 Schreiner, Anton, Nabburg.—Ornamental drinking utensils. 218
 115 Woldemar, Wimmer, Annaberg, Saxony.—Gold and silver wire-ware. 218
 117 Voeltzkow, W., Berlin.—Picture frames. 220
 118 Voeltzkow, G. W., jr., Berlin.—Picture frames. 220
 119 Massmann, F., Kiel.—Gold cornices. 220
 119a Mendheim, Georg, Berlin.—Plans for stove. 222
 120 Joint Stock Co. for the Manufacture of Bronze Goods & Zinc Castings, Berlin.—Chandelier of bronze, and zinc castings. 223
 121 Körner & Co., Berlin.—Lamps. 223
 122 Kleemann, C. A., Erfurt.—Lamps. 223
 123 Schwarz, J. von, Nuremberg.—Gas-burners made of soapstone. 223
 125 Normann, Joh. Georg, Nuremberg.—Moulds for confectioners' use. 224

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Yarns and Woven Goods of Vegetable or Mineral Materials.

- 128 Herrmann, L., jr., Dresden.—
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- 129 Scholler, Ph. Jacob, & Sons, Neu-
stadt-on-Hardt.—Woven wire goods. 228
- 130 Siemsen, Joh., Hameln-on-Weser.
—Manila hemp goods. 229

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- 131 Gladbach Joint Stock Spinning &
Weaving Mills, M. Gladbach. 230
- 132 Busch Bros., M. Gladbach.
- 133 Droste & Siepermann, M. Gladbach.
- 134 Ercklentz, Max, & Co., M. Gladbach.
- 135 Goertz & Kirch, M. Gladbach.
- 136 Willemsen, P., Widow, M. Glad-
bach.
- 137 Rosenberg & Cohen, M. Gladbach.
- 138 Schlafhorst & Brühl, M. Gladbach.
- 139 Everling, Carl, & Co., M. Gladbach.
- 140 Ercklenz & Reuter, M. Gladbach.
- 141 Bötterling & Schultze, M. Glad-
bach.
- 142 Essers, Martin, M. Gladbach.
- 143 Croon Bros., M. Gladbach.
- 144 Langen, Kruchen, & Borrenkott,
M. Gladbach.
- 145 Wolff, Fr., M. Gladbach.
- 146 Hellendall & Steinberg, M. Glad-
bach.
- 147 Grunwald & Klei, Rheydt.
- 148 Kropp, J. P., Rheydt.
- 149 Nacken, G. H., Rheydt.
- 150 Sanders, W., Rheydt.
- 151 Ax, Heinrich, Rheydt.
- 152 Oechelhäuser, Rheydt.
- 153 Coenen & Wolter, Odenkirchen.
- 154 Erckens & Co., Grevenbroich.
- 155 Rolfs & Co., Siegfeld.

**156 Steam Net Manufactory, Itzehoe,
Holstein.—Nets.**

- 157 Rischbieter, Carl, Dessau.—Win-
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- 158 Schlieper & Baum, Elberfeld.—
Calico. 232

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TEMBERG MANUFACTURERS OF LINEN
GOODS.**

- 159 Lang, Ed., of Blaubeuren.—Linen
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- 160 Eckstein & Kahn, Stuttgart.—Ta-
ble cloths, towels, shirts. 233
- 162 Pichler, Hermann, Urach.—Table
cloths, damask covers. 233
- 163 Beck, E., Ulm.—Linen and cotton
shirt fronts; linen. 233
- 164 Steam Ticking Mills, Göppingen.—
Ticking. 233
- 165 Kolb & Schüle, Kirchlieun.—Fus-
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- 166 Mayer & Co., Bielefeld.—Linen
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**166^a Meyer, Jos., Dresden.—Damask
goods.**

- 166^b Lairitz, C. & L., Remda.—Linen
fabrics. 233
- 166^c Loewenberg, H., Charlottenburg.
—Imitation leather goods. 234

Woven and Felted Goods of Wool, etc.

- 167 Bergmann & Co., Berlin.—Zephyr
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- 168 Hüffer, Heinrich, Crimmitschau.
—Worsted for weaving. 235
- 170 Scholz, Paul, Friedberg-on-Oder.
—Knitting yarns. 235
- 171 Tittel & Krüger, Leipsic.—Dyed
zephyr wools. 235

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- 177 Schöller, J. P., Düren, near Aix-la-
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- 187 Jung & Simons, Elberfeld.
- 188 Lucas Bros., Elberfeld.
- 189 Schaefer & Co., Elberfeld.
- 190 Weerth, de, & Co., Elberfeld.
- 191 Wolff, R. & E., Elberfeld.

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 258 Krug, J. M., Hanau.
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- 300 Helmbrecht, G., Nuremberg.
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- 303 Miller, Th., Nuremberg.
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- 306 Kithil, A., Nuremberg.
- 307 Uebelacker, L., Nuremberg.
- 308 Hess, Math., Nuremberg.
- 310 Fischer, J. G., Erlangen.
- 311 Schlenk & Lutzenberger, Nuremberg.
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- 313 Hahn, Gottlieb, Fürth.
- 314 Ott, Gebhard, Nuremberg.
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- 189 Metzner, Bernhard, Graslitz, Bo-
hemia.—Laces, handkerchiefs, and fan
decorations. 252
- 190 Stramitzer, I., Vienna.—Point
gaze tape laces. 252
- 191 Menzel, W. E., Teplitz, Bohemia.
—Garnets, genuine and imitation stones
(pierres de strasse). 253
- 192 Reif, Joseph, Prague.—Jewelry of
precious stones. 253
- 193 Goldschmidt's Sons, Michael,
Prague.—Gold and sil ornaments. 253
- 194 Steiner & Kolliner, Prague.—Gar-
net, gold and silver jewelry. 253
- 195 Goldschmidt, Louis A., Dubnik,
Hungary.—Polished opals. 253
- 196 Markowitsch & Scheid, Vienna.—
Silver trinkets. 253
- 197 Neustadt, M. H., Prague.—Garnet
jewelry. 253
- 199 Bolzani & Fussl, Vienna.—Gold
chains. 253
- 200 Bergmann, Franz, Gablonz.—Imi-
tation gems. 253
- 202 Rodek Brothers, Vienna.—
Bronze and leather jewelry. 253
- 205 Kersch, Moritz, Prague.—Garnet
articles. 253
- 207 Ulbrich, Franz, Ober-Kukan, near
Gablonz.—Imitation of precious stones. 253
- 209 Hofrichter's Son, Joseph, Reich-
i, near Gablonz, Bohemia.
a Imitation precious stones. 253
b Papier-maché boxes. 254
- 213 Schadelbauer, Vincenz, Vienna.—
Mother-of-pearl buttons. 254
- 216 Baudissin, Countess Pauline, Vi-
enna.—Artificial flowers. 254
- 217 Turners' Sample Office, Vienna.—
Cork articles, tobacco pipe tube, and am-
ber cigar holders. 254
- 223 Iaruschka, Joseph, Vienna.—Mo-
ther-of-pearl buttons. 254
- 226 Hieke, Augustine, Tyssa, near
Jodenbach, Bohemia.—Horn and metal
buttons. 254
- 227 Lux, Cl., Vienna.—Bronze arti-
cles. 254
- 228 Bergman, Franz, Vienna.—Bronze
articles. 254
- 231 Hellmich, F. A., Eidam, Wolfers-
dorf, Bohemia.—Glass, pearls, bone, ivory,
horn, and tortoise-shell buttons, real and
imitation. 254
- 232 Heller's Sons, Balduin, Teplitz,
Bohemia.—Metal buttons and trinkets. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fancy Goods, Stationery, Medical Appliances, Hardware.

- 234 Hiess, Frans, Vienna.—Turners' articles, meerscham and amber. 254
- 237 Kemperling, Hermann, Vienna.—Turners' articles, pipes, cigar holders, canes. 254
- 241 Krehan, Ignaz, Vienna.—Mother-of-pearl buttons. 254
- 243 Kuzel, John, & Jankowsky, C., Vienna.—Turners' articles, inkstand, cigar holder, ash bowls, watch holder, candle screens. 254
- 248 Umann, John, Tiefenbach, Bohemia.—Paper weights. 254
- 251 Wagner, Franz, Meistersdorf.—Bronze articles. 254
- 252 Lederer, K., Gablonz, Bohemia.—Glass trinkets. 254
- 254 Hartmann, L., & Eidam, Vienna.—Turners' articles, smoking requisites made of meerscham and amber. 254
- 256 Lukasch, I., Vienna.—Mother-of-pearl faucets. 254
- 256a Schneider, Wenzel, Prague.—Necessaries for the toilet, threading machines. 254
- 267 Sittig, Joseph, Vienna.—Horn buttons. 254
- 271 Coffani, Maria, Vienna.—Parasols, fans, hats, and trinkets, made of straw. 254
- 272 Bauer & Pokorny, Vienna.—Meerscham pipes. 254
- 274 Osterritter, Joseph, Vienna.—Fans of tortoise-shell, ivory, feathers, silk, wood, and leather. 254
- 278 Puschner, Franz Anton, Tyssa, near Bodenbach, Bohemia.—Metal buttons, brooches, sets of earrings, emblems, medals, decorative buckles. 254
- 279 Schwan, Wilhelm, Willendorf.—Mother-of-pearl buttons. 254
- 283 Wittek, Adalbert, Vienna.—Mother-of-pearl buttons. 254
- 285 Steindl, Carl, Vienna.—Mother-of-pearl buttons. 254
- 286 Blazincic & Sons, John, Vienna.—Haberdashery. 254
- 290 Trebitsch, Arnold, Vienna.—Articles of meerscham and amber. 254
- 291 Unger, Franz, Vienna.
a Smoking requisites. 254
b Leather articles. 255
- 293 Danberger, George, Vienna.—Bronze ware, frames for photographs, toilet looking glass, cigar holders, inkstands, match boxes. 254
- 297 Bechmann, A. F., Vienna.—Bronze ware. 254
- 298 Beihl, Franz, Vienna.—Bronze ware. 254
- 299 Frank, Joseph, Vienna.—Bronze ware. 254
- 300 Driedzinski & Hanusch, Vienna.—Bronze articles. 254
- 301 Bohm, Anton, Vienna.—Bronze ware. 254
- 303 Bohm, Ludwig, Vienna.—Bronze ware. 425
- 306 Wertheimer, Joseph, Vienna.—Fans. 254
- 307 Wielander, Peter, Vienna.—Mother-of-pearl buttons. 254
- 308 Bambula, John, Vienna.—Bronze goods, albums, writing portfolios, belts. 254
- 310 Unger, Franz, Vienna.—Portemonnaie, frames for manufacture of leather fancy goods. 255
- 315 Seewald, Michael, Vienna.—Leather ware and trinkets. 255
- 316 Rodek Bros., Vienna.—Leather articles. 255
- 317 Osterritter, Joseph, Vienna.—Leather articles. 255
- Paper, Blank Books, Stationery.
- 321 Fialkowski Bros. & Twerdy, Bilitz, Austria-Silesia.
a Writing paper. 259
b Printing paper. 260
- 322 Eichmann & Co., Arnau, near Prague.—Samples of paper. 259
- 323 Opitz & Son, Carl, Teplitz, Bohemia.
a Paper. 259
b Pasteboard. 262
- 325 Knepper, W., Vienna.
a Cigarette paper. 260
b Fancy paper. 264
- 326 Schloglmuhl Paper Factory, Vienna.—Paper rolls for printing machines. 260
- 327 Schoffel, Anton, Reichenau, Bohemia.—Papier-maché boxes. 262
- 328 Wesely, Veit., Vienna.—Boxes. 262
- 331 Ostersetzer Bros., Vienna.—Paper laces. 264
- Weapons, etc.
- 333 Percussion Caps, Cartridge, & Breech Ring Factory, Prague.—Percussion caps, cartridges, and breech rings. 265
- Medicine, Surgery, Prothesis.
- 334 Wilhelm, Franz, & Co., Vienna.—Drugs, medicinal herbs, volatile oils, etc. 272
- 335 Wartpatrikoff Bros., Vienna.—Insect powder. 272
- 336 Pollak, Jacques, Vienna.—Ether. 272
- 337 Zacherl, John, Vienna.—Insect powder and tinctures. 272
- 338 Hamerli, John, Funfkirchen, Hungary.—Leather trusses. 276
- 338a Politzer, Adam, Vienna.—Anatomical and pathologico-anatomical preparations. 276
- 339 Berghammer, Fr., Vienna.—Set of artificial teeth. 277
- 340 Perl, Joseph, Klausenburg, Hungary.—Teeth, sets of teeth. 277
- 341 Zsigmondy, Adolf, Vienna.—Teeth. 277
- Hardware, Edge Tools, Cutlery, and Metallic Products.
- 343 Wertheim, Baron Franz, Vienna.—Complete representation of the Austrian tool manufacture. 280
- 344 Schneider, Wenzel, Prague.—Fine penknives. 281
- 346 Winkler, Alois, Vienna.—Cast zinc articles, plates, emblems, letters, and coat of arms. 281
- 347 Winkler, Michael, Vienna.—Cast metal signs and letters. 281

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 97-8.

Manufactures, Art, Machinery, Animal Products.

348 Moravia Ironware Industry & Trade Co., Vienna.—Nails, screws. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

350 Schnek & Kohnberger, Vienna.—India-rubber goods. 285

351 Hausmann, Wilhelm, Reichenberg.—Kope articles, twine, cords, girths. 287

352 Kobl, August, Vienna.
 a Hemp hose, mill straps for mills. 287
 b Fire buckets for mills. 289

Carriages, Vehicles, and Accessories.

353 Lohner & Co., Jacob, Vienna.—Phaeton carriages. 292

356 Armbruster, Sebastian, Vienna.—Landau coach. 293

357 Bloch & Sons, E., Brunn.—Sole-leather saddle cloths. 296

Painting.

357a Hofrichter's Sons, Reichenau, near Gablonz.—Oil paintings. 410

357b Isella, Pietro, Vienna.—Painting. 410

Engraving and Lithography.

357c Paterno, Fr., Vienna.

a Drawings. 420

b Chromo-lithographs. 424

357d Kaeser, P., Vienna.—Engravings. 421

357e Bader, F. W., Vienna.—View of Vienna. 422

358 Winkler, Alois, Vienna.—Oleo-graphs. 424

358a Lehmann, Nikolaus, Prague.—Chromos. 424

358b Lott, Ludwig, Vienna.—Chromotypographs. 424

358c Reiffenstein & Rösch, Vienna.—Chromos. 424

358d Sieger, Edward, Vienna.—Lithographs. 424

358e Czeiger, S., Vienna.—Chromos. 424

Ceramic Decorations, Mosaics, etc.

359 Steinmetz, Franz, Petronberd, Illyria.—Inlaid work and veneer. 452

360 Egger, I. B., Villach, Karnten.—Inlaid work and veneer. 452

Machines for Printing, Making Books, Paper Working, etc.

361 Wuste, F., Vienna.—Cylinder coverings. 543

Arboriculture and Forest Products.

362 Frankl, J. G. & L., Vienna.—Wood specimens for the manufacture of furniture. 601

Water Animals, Fish Culture and Apparatus.

364 Nachtmann, Jacob, Tannwald, Bohemia.—Chamber leech aquariums. 640

Animal and Vegetable Products.

365 Zacherl, John, Vienna.—Cleaned sponges. 650

370 Ujhely & Co., H., Stockerau.—Wax. 654

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Chemicals, Ceramics, Woven Goods, Silk.

Chemical Manufactures.

- 1 Guyot-Lupold, A., Locle, Ct. Neuchâtel.—Chemical products, artificial black diamond, diamantine, powder of rubies, enamels for jewelry. 200
- 4 Amblet & Poncet, Geneva.—Oil for watches and instruments of precision. 201
- 5 Brunnenschweiler, Traugott, St. Gallen.—Caseum for calico printing, caseum glue for cold glueing. 201
- 6 Vaucher, L., Peseux, near Neuchâtel.—Animal oil for chronometers and fine watches. 201
- 7 Bindschedler & Busch, Basle.—Raw materials for the manufacture of dyes, aniline dyes, artificial alizarine. 202
- 8 Brunnenschweiler & Son, St. Gallen.—Printing inks, inks for Morse & Hughes' apparatus, extracts of ink in powder. 202
- 9 Durand & Huguenin, L., Basle.—Naphthaline, resorcin, fluorescent, cocene, phthaline and solutions, sefranine, galleine, ceruleine, steam blue, etc. 202
- 10 Bühler, Emile, Neuchâtel.—Hair regenerator, pomade, balsam, tooth-water, quinine-water. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 11 Collin, Ch., Derendingen, Ct. Solothurn.—Watch glasses. 214

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 13 Billeter, C. G., Zurich.—Singed cotton threads, unbleached cotton sewing thread, cotton leash threads. 230
- 14 Brunner, A., Männedorf, Ct. Zurich.—White and colored bed-covers. 230
- 15 Gujer-Brunner, Uster, Ct. Zurich.—White and colored tricot bed-covers and table-cloths. 230
- 16 Oetiker, M. R., Männedorf, Ct. Zurich.—White and colored cotton bed-covers and table-cloths. 230
- 17 Schlaepfer, J. U., Waldstatt, Ct. Appenzell, Inner Rhodes.—Muslin. 230
- 18 Fierz, Henri, Zurich.—Cotton goods. 231
- 19 Wallenstadt Fancy Cotton Goods Mills, Wallenstadt, Ct. St. Gallen.—Fancy cotton goods. 231
- 20 Fierz, Henri, Zurich.—Turkey-red printed handkerchiefs, cashmere shawls, door-curtains, chintz. 232
- 21 Hanhart-Solivo, J., Dietikon, Ct. Zurich.—Cambrics, handkerchiefs, shawls, chintzes. 232

- 22 Asmoos Weaving Mills, Asmoos, Ct. St. Gallen.—Figured cotton goods. 232
- 23 Schneider, C. F., Dättlikon, Ct. Zurich.—Lint for hospitals, colored wadding for jewelry. 233

Woven and Felted Goods of Wool, etc.

- 24 Munzinger, Conrad, Olten, Ct. Solothurn.—Felt of wool and cotton for paper mills, cylinder-cloth. 235
- 25 Siegenthaler, St., Enggistein, near Worb, Ct. Berne.—Boots and shoes of felt, with and without wooden soles, felt soles, felt tablets for watch-makers, filtering bags, felt trimmings. 235
- 26 Ernst, Ferdinand, Winterthur, Ct. Zurich.—Goods of wool and mixtures of wool. 238
- 27 Schnyder, J. J., Wädenswil, Ct. Zurich.—Worsted horse-hair and fibre for mattresses and upholstery, horse-tails, bristles. 240

Silk and Silk Fabrics.

- 28 Baumann, senior, & Co., Zurich.—Silks. 245
- 28a Zäeslein & Müller, Basle.—Argal, silk waste, and fabrics of silk waste. 245
- 29 Baumann & Streuli, Horgen, Ct. Zurich.—Silks. 245
- 30 Dufour & Co., Thal, Ct. St. Gallen.—Silk bolting-cloth, silk grit-gauze. 245
- 31 Egli & Sennhauser, Zurich.—Silk bolting-cloth, middlings purifiers. 245
- 32 Frey-Feer, J., & Co., Aargau, Ct. Aargau.—Silk ribbons, faille, cord-edged taffetas, saransen, listons, satins. 245
- 33 Heidegger, Wegmann, & Co., Seefeld, Zurich.—Silk bolting-cloth. 245
- 34 Homberger Bros., Wetsikon, Ct. Zurich.—Silk bolting-cloth. 243
- 35 Jansen, Bodek, & Hertz, Riesbach, near Zurich.—Silks and satins. 245
- 36 Adlischweil Silk Goods Factory, Adlischweil, near Zurich.—Silks. 245
- 37 Winterthur Silk Goods Factory, Winterthur, Ct. Zurich.—Umbrella silks. 245
- 38 Meyer, Bros., Zurich.—Swiss silk bolting-cloth. 245
- 39 Reiff-Huber, Zurich.—Silk bolting-cloth. 245
- 40 Rüttschi, S., & Co., Zurich.—Silks and satins. 245
- 41 Ryffel & Co., Stäfa.—Silks. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 97-98

Silk, Clothing, Jewelry, Weapons.

- 42 Schärer, Emil, & Co., Zurich.—Silks. 245
43 Schröder, Wilhelm, & Co., Zurich.—Silks. 245
44 Schwarzenbach, Landis J., Thalweil, near Zurich.—Silks. 245
45 Stapfer, Joh., Sons, Horgen, Ct. Zurich.—Silks. 245
46 Stunzi & Sons, Horgen, Ct. Zurich.—Silks and satins. 245

Clothing, Jewelry, etc.

- 47 Blumer & Wild, St. Gallen.—Hosiery, ladies' fancy articles. 250
48 Bourquin, C. F., Cormondrèche, near Neuchâtel.—Wool hosiery, jackets, and waistcoats. 250
49 End-Ulmi, Ali., Lucerne.—Knitted under-garments. 250
50 Hess, Gebr., Amrisweil, Ct. Thurgau.—Colored shirts and over-shirts. 250
51 Huggenberger, U., Frauenfeld, Ct. Thurgau.—Hosiery. 250
52 Meyer-Wäppli & Co., Altstetten, near Zurich.—Knitted under-garments. 250
53 Wiki, B., Lucerne.—Gentlemen's clothing. 250
54 Bell, August, Kriens, near Lucerne.—Crimoline braids. 251
55 Chiesa Bros., Locarno, Ct. de Tessin.—Braids and straw hats, Canton Tessin specialty. 251
56 Eich & Co., Lenzburg, Ct. Aargau.—Horse-hair braids, straw-plaitings, cotton tress-work, borderings, hair-cloth. 251
57 Indermühle, E. Th., Berne.—Straw hats. 251
58 Isler, Aloyse, & Co., Wildegg, Ct. Aargau.—Hair and cotton plaits, fancy goods of hair, straw, cotton, and silk for hats and bonnets. 251
59 Isler, Jacob, & Co., Wohlen, Ct. Aargau.—Straw goods. 251
60 Walser, Conrad, Wohlen, Ct. Aargau.—Straw hats, plaits, and fancy articles of straw, crinoline, cotton, and manila hemp, tissues of straw, silk, and other materials for fancy boxes, sparterie, embroidery, and ornaments for bonnets. 251
61 Alder Bros., Herisau, Ct. Appenzell, Inner Rhodes.—Haud and mechanical embroideries. 252
62 Alder & Meyer, Herisau, Ct. Appenzell, Inner Rhodes.—Embroidered trimmings. 252
63 Baerlocher-Custer, Rheineck, Ct. St. Gallen.—Embroidery, lace curtains, tidies, bed-covers, pillow-case covers. 252
64 Basquin, Hector, & Schweizer, St. Gallen.—Machine embroideries. 252
65 Bion & Tschumper, St. Gallen.—Mechanical embroideries. 252
66 Fisch Bros., Buhler, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries. 252
67 Göldy, A., & Co., St. Gallen.—Mechanical embroideries, Hamburg edgings and insertions. 252
68 Hirschfeld Bros. & Co., St. Gallen.—Swiss lace curtains. 252

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48

- 69 Iklé Bros., St. Gallen.—Mechanical embroideries. 252
70 Locher Bros., Speicher, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries on silk. 252
71 Wülflinger Machine Embroidery Establishment, near Winterthur, Ct. Zurich.—Colored embroidery by machinery, Hamburg edgings. 252
72 Scheitlin & Widmer, St. Gallen.—Mechanical embroideries. 252
73 Stäheli-Wild, C., St. Gallen.—Hand and mechanical embroideries. 252
74 Steiger & Co., Herisau, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries, lace curtains. 252
75 Strauss, D., & Co., St. Gallen.—Lace curtains, drop laces, embroideries. 252
76 Sturzenegger & Ruts, Trogen, Ct. Appenzell, Inner Rhodes.—Cravats, edgings. 252
77 Sutter-Dörig, R., Appenzell.—Hand and machine embroidery. 252
78 Tobler, Uir., & A., Rheineck & Thal, Ct. St. Gallen.—Machine embroidery. 252
79 Zühner & Schiess, Herisau, Ct. Appenzell, Inner Rhodes.—Hamburg edgings and insertions. 252
80 Zellweger, J. C., Trogen, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries. 252
81 Drawing School of the Board of Trade, St. Gallen.—Embroideries executed from designs of the drawing school. 252
82 Urech, E., Herisau, Ct. Appenzell, Inner Rhodes.—Mechanical embroidery. 252
82a Zürcher-Banziger, J., Teufen, Ct. Appenzell, Inner Rhodes.—Mechanical embroidery. 252
83 Petit-Pierre & Bryson, Geneva.—Jewelry. 253
84 Gay, Jean, Geneva.—Watch chains. 253
84a Meylan & Mertens, Ed., Geneva.—Gold chains and chatelaines. 253
85 Jaccard, Eugène, St. Croix, Ct. de Vaud.—Plate engraved with flowers, ornaments, and devices relating to the Centennial. 254
86 Rohr, Walter von, A., Mülmsliwyl, Ct. Solothurn.—Combs. 254

Paper, Blank Books, Stationery.

- 88 Müller, Johs., Schaffhausen.—German, French, English, and Spanish playing cards, railway tickets. 262

Weapons, etc.

- 89 Swiss Manufacturing Co., Neuhausen, near Schaffhausen.—Vetterli-system, infantry and target rifles, blank cartridges. 265
89a Schmidt, Major, Berne.—Rifle and revolver. 265

Medicine, Surgery, Prothesis.

- 90 Durieu, Oetli, & Co., Vevey, Ct. Vaud.—Milk-powder. 265

Medical Appliances, Hardware, Animal and Vegetable Products.

- 91 Gerber & Co., Thun, Ct. Berne.—Condensed milk, children's food, medical condensed milk. 273
- 92 Lapp, C., Freiburg.—Food for children, condensed milk. 273
- 93 Naumann-Burkhardt, H., Basle.—Extract honey; syrup, and flour of meat. 273
- 94 Nestlé, Henry, Vevay, Ct. Vaud.—Milk food or lacteous farina. 273
- 94a Wander, G., Berne.—Extracts of malt and malt drops. 273
- 95 International Bandage-shiff Factory, Schaffhausen.—Dressings, lint, appliances for the dressing of wounds, pharmaceutical apparatus. 276
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 96 Spillmann, Heinrich, Unterstrass, near Zurich.—Engineering tools. 280
- 97 Schneider, C. F., Geneva.—Complicated pocket-knives. 280
- 98 Bürgin, Bros., Schaffhausen.—Up-holsterers' nails. 280
- 98a Le Coultre, Jacques, Sentier, Ct. Vaud.—Razors. 281
- 98b Bossi, Gaetano, Locarno, Ct. Tessin.—New system of safety locks. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 99 Bally & Schmitter, Aargau, Ct. Aargau.—Elastic webs for boots. 285
- AGRICULTURE.**
- Agricultural Products.**
- 1 Anastasio, Giuseppe, Lugano, Ct. Tessin.—Cigars. 623
- 2 Kottmann, J., Solothurn.—Cigars. 623
- 3 Sauter, A., Diessenhofen, Ct. Thurgau.—Cigars. 623
- Animal and Vegetable Products.**
- 4 Schleife Tanneries, Winterthur, Ct. Zurich.—Blackened calf leather. 652
- 5 Hürlimann, J. J., Rapperswil, Ct. St. Gallen.—Swiss honey. 654
- 6 Society for Bee Culture, Lukmanier, Sobrio, Ct. Tessin.—Honey and wax. 654
- 7 Coffee Surrogate Factory, Zurich.—Fig-meal (surrogate of coffee), conserved coffee. 656
- 8 Robbi & Co., Geneva.—Chocolate. 656
- 9 Schweigert, Auguste, Geneva.—Theodoro's sauce. 656
- 10 Suchard, Ph., Neuchâtel.—Chocolate, cacao. 656
- 11 Almen, von, & Kopp, Fleurier, Ct. Neuchâtel.—Absinthe. 660
- 12 Berger, C. F., Couvet, Ct. Neuchâtel.—Absinthe. 660
- 13 Bernhard, S., Samaden, Engadin, Ct. Graubünden.—Jva bitter, Jva perfume, and tincture. 660
- 14 Bolle, L. A., Son, Verrières, Ct. Neuchâtel.—Green and white absinthe. 660
- 15 Grandpierre, J., Geneva.—Vermouth. 660
- 16 Henny & Mouillet, Fleurier, Ct. Neuchâtel.—Absinthe. 660
- 17 Kirschwasser Company Zug, Zug.—Kirschwasser. 660
- 18 Nievergelt, Joh., Maschwanden, Ct. Zurich.—Kirschwasser. 660
- 19 Pernod, Ed., Couvet, Ct. Neuchâtel.—Green and white absinthe, gentian-liquor, kirschwasser. 660
- 20 Scherer, Bros., Meggen, Lucerne.—Kirschwasser. 660
- 21 Schmidt, Joseph, Zug.—Sweet-liquors, rightbitter, stomach-bitters, kirschwasser. 660
- 22 Stauffenegger, Chr., Travers, Ct. Neuchâtel.—Absinthe. 660
- 23 Gessler-Zeller, J., Basle.—Leckerly of Basle. 660
- 24 Mattmann, Brothers, C. & J., Horw, near Lucerne.—Italian pastry. 661

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BELGIUM.

(North of Nave, Columns 54 to 59.)

Chemicals, Ceramics, Glass.

Chemical Manufactures.

- 1 Hemptinne, A. de, Son, Molenbeek, St. Jean, near Brussels.—Plan of apparatus for manufacturing sulphuric acid. 200
- 3 Meeus, M. & J., Antwerp.—Refined sulphur. 200
- 4 Solvay & Co., Couillet, near Charleroi.—Chemicals, soda-salt. 200
- 6 Des Cressonnières (widow) & Son, Molenbeek, St. Jean, near Brussels.—Toilet soap. 201
- 8 Staes, Sproelants, Termonde, East Flanders.—Linseed, rape-seed, hemp-seed, cotton, and other oils. 201
- 9 Botelberge, Gustave, & Co., Melle, near Ghent, East Flanders.—Ultramarine. 202
- 10 Gilkinet, C. J., Ensival, near Verviers.—*Cache-epoutil*, or special ink, to point out the defects on cloth and dye-stuffs. 202
- 11 Lummersheim, M. H., & Co., Wondelgem, near Ghent, East Flanders.—Bituminous and re-asphaltic roof and ship sheathing paper, lampblack. 202
- 12 Offergeld Bros., Forest, near Brussels.—Red, brown, and chestnut iron paint. 202
- 13 Planche, Edouard, Son, Laeken, near Brussels.—Writing ink. 202
- 14 Planche, Melchior, Ixelles, near Brussels.—Writing ink. 202
- 15 Singer, Max, Tournai (Hainaut).—Aniline products for dyes extracted from coal-tar, etc. 202
- 16 White Lead & Iron Paint Joint Stock Co., Anderghem, near Brussels.—White lead, iron paint, mastics. 202
- 17 Van der Velden, Leopold, Liège.—Writing, glossing, and indelible ink, liquid glue, etc. 202
- 18 Van Laer, Guillaume, Verviers.—Dyers' practical guide, mordant processes. 203
- 19 Marbaix, Auguste de, Antwerp.—Aromatic liquor, Anvers water, essential oil, caraway essence, cedar essence, Florentine iris, and oil of cloves. 203
- 20 Cooppal & Co., Wetteren, East Flanders.—Charcoal, sulphur, powder and cartridges. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 23 Seilles les Andenne & Bouffoulx Joint Stock Co. of Refractory Products and Plastic Clay, Seilles, near Andenne,

Province of Liège.—Burnt refractory earthenware, brick for gas furnaces, etc., gas retorts, refractory plastic clay. 207

- 25 Wingender Bros., Chokier, near Liège.—White and colored clay pipes. 210
- 26 Floreffe Co., Floreffe, near Namur.—Plate glass for windows. 214
- 26a Schmidt Brothers & Sisters, Lodelinsart.—Window glass. 214
- 27 Andris, Lambert, & Co., Marchienne-au-Pont, near Charleroi (Hainaut).—White window and heavy muslin glass. 214
- 27a National Glass Works Joint Stock Co., Jumet.—Window glass. 214
- 28 Baudoux & Co., Charleroi.—White and colored window and unpolished and corrugated muslin glass, with variegated rosettes engraved and cut. 214
- 29 Baudoux, E., & Jonet, Lodelinsart.—Colored and fancy window glass. 214
- 30 Bennert & Bivort, Jumet, near Charleroi.—Window glass. 214
- 31 Bougard, A., Le Brun, H., & Co., Roux, near Charleroi.—Window glass. 214
- 32 Dorlodot, L. de, & Co., Lodelinsart.—Unpolished and corrugated window glass, greenhouse, cathedral, and stained glass, old glass imitation. 214
- 33 Looper, de, Haidin, & Co., Courcelles.—Window glass. 214
- 34 Dessent, J., & Bros., Jumet.—Window glass. 214
- 35 Fourcault-Frison, A., & Co., Dampremy, near Charleroi.—Window glass. 214
- 36 Hans, Octave, & Co., Jumet, near Charleroi.—Window glass. 214
- 37 Lambert, Casimir, Son, Charleroi.—Window glass. 214
- 38 Lambert, L., & Co., Hamendes Glass Works, Jumet.—Window glass. 214
- 39 Leurant, Emile, Jumet (Heigne), near Charleroi.—Glass cylinder. 214
- 40 Mondron, Leon, Lodelinsart, near Charleroi.—Window glass. 214
- 41 Monnoyer, J., & Son, Dampremy, near Charleroi.—Window glass. 214
- 42 Morel, Alphonse, Lodelinsart, near Charleroi.—Window glass. 214
- 43 Schmidt, A., & Co., L'Alliance Glass Works, Jumet (Brulotte), near Charleroi.—Window and fluted glass. 214
- 44 Schmidt, Devillez, & Co., Dampremy, near Charleroi.—Window glass. 214
- 45 Glass Works Joint Stock Co., Charleroi.—Window glass. 214

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48

Glass, Furniture, Woven Goods.

- 46 Plate Glass Manufacturing Joint Stock Co., Courcelles, near Charleroi.—Clean polished and plated glass. 214
- 47 Hainaut Glass Manufacturing Joint Stock Co., Roux, near Charleroi.—Plate glass for windows, silvered glass, samples of plate glass at different stages of manufacture. 214
- 48 Glassware & Plate Glass Manufacturing Joint Stock Co., Brussels.—Framed plated and unplated mirrors. 214
- 49 Bougard, A., Manage (Hainaut).—Crystals. 216
- 50 Boussu, Familleureux & Blanc Misseron Glass Works Joint Stock Co., Boussu, near Mons (Hainaut).—Crystals and half crystals, dinner service, and articles for lighting. 216

Furniture and Objects of General Use in Construction and in Dwellings.

- 51 Demeuter, Leopold, Son, Brussels.—Furniture and hangings. 217
- 52 Goyers, J. A. & H., Bros., Louvain.—Pulpit in the ogive style. 217
- 53 Snijders, Rang, & Co., Brussels.—Carved walnut furniture, renaissance style, ebony inlaid with ivory. 217
- 54 Teugels, Emile, Malines, Province of Anvers.—Carved furniture, a chair of the sixteenth century, a Flemish chair of the sixteenth century. 217
- 55 Zech, H., Malines.—Ebony bureau, arm-chair, and book-case. 217
- 56 Boucneau, Leon, Schaerbeek, near Brussels.—Marble mantelpiece, Belgian mosaic marble panels for dining-room decoration, brick pavement and Belgian mosaic marble table. 217
- 57 Guyaux Bros., Bouffoulx, near Charleroi.—Black marble, St. Anne mantelpiece. 217
- 58 Lintelo, A., Brussels.—Clocks and marble slabs. 217
- 59 Parmentier, Gosset, & Co., Sivy (Hainaut).—Marble mantelpieces with vases and clocks. 217
- 60 Tainsy, F., Brussels.—Marble mantelpieces. 217
- 61 Brodure, Mathieu, Spa.—Painted, varnished, and gilt wooden work. 219
- 62 Bronfort Bros., Spa.—Painted and ornamented wooden boxes, etc. 219
- 63 Debrus-Leclair (widow), Spa.—Painted and ornamented wooden boxes, etc. 219
- 64 Debrus, Willem Alexandre, Spa.—Wooden boxes, etc. 219
- 65 Krins, E., Spa.—Wood carvings. 219
- 66 Van Ginderdeuren, Brussels.—Wood carvings, furniture. 219
- 67 Costermans, Jean, Brussels.—Hearth of the Flemish renaissance. 222
- 68 Miedel, Dieudonné, Sombreffe, near Gembloux, Province of Namur.—A brick layer ventilator for chimneys and colliery pits. 222
- 70 Serra, G. N., Director of the State Railroad.—A plan for utilizing the heat wasted by kitchen stoves, and a heating and ventilating system for passenger railroad cars. 222
- 71 L'Eclair Joint Stock Co., Kessel-Loo, near Louvain (Brabant).—Match tapers. 223
- 72 Pas, Gerard, Brussels.—Silver, copper, and bronze household utensils. 224
- 73 Tremouroux, N. & J., Bros., Saint-Gilles, near Brussels.—Polished, varnished, bronzed, enameled, plated, and wrought iron household utensils. 224
- 74 Valania, Jean, Ixelles, near Brussels.—Machines for confectioners. 224
- 75 Vanderrest, Guillaume, Brussels.—Machine for the manufacture of sweetmeats. 224
- 76a Dogny, Jean Baptiste, Brussels.—Balusters, ornaments for door panels. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 77 Baertsoen, A., & Buysse, A., Ghent.
a Cotton textile fabrics. 230
b Linen textile fabrics. 233
- 78 Smet, E. de, & Co., Ghent.—Thread in packages; warped, unbleached and dyed skeins. 230
- 79 Desmet Bros., Ghent.—Dyed, bleached, and unbleached textile fabrics. 230
- 80 Parmentier, Van Hoegarden & Co., Ghent.—Spun cotton, bleached and unbleached printed cotton textile fabrics. 230
- 81 Devos, Camille, & Brother, Courtrai.—Stuff for trousers. 231
- 82 Idiers, Emile, Auderghem, near Brussels.—Spun cotton, dyed Adrianople red, etc. 231
- 83 Brandt, Jacques de, Alost.—Diapered and damasked table linen. 233
- 84 Declercq, Clement, Iseghem, East Flanders.—Twisted linen thread for machine and hand sewing. 233
- 85 Govaert Bros., Alost, East Flanders.—Canvas, sackcloth and bags for grain, guano, salt, etc. 233
- 86 Leirens-Eliaert of Eliaert-Cools, Alost, East Flanders.—Thread and tow for weaving, sewing thread. 233
- 90 Re y, senior, Brussels.—Linen fabrics. 233
- 91 Sak-Volders, Joseph, Turnhout, Province of Antwerp.—Tickings for beds and awnings. 237
- 92 La Lys Co., Ghent.—Jute and linen thread. 233
- 93 Van Damme Bros., Roulers, East Flanders.—Cloth. 233
- 94 Vande Wynckele Bros. & Aisberge, Ghent.—Tow and linen thread bleached, at every stage. 233
- 95 Wilford, William, Tamise, East Flanders.—Imperial extra flax, merchant and navy canvas; combed flax and thread for its manufacture. 233

Woven and Felted Goods of Wool, etc.

- 96 Hauzeur-Gerard, Son, Verviers.—Carded woolen thread. 235
- 99 Baras-Navaux, Verviers.—Cloth and woolen stuff. 235
- 100 Bettonville, Clement, Rodmont, near Verviers.—Cloth and woolen stuff. 235

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-46

Woven Goods, Silk, Clothing, Stationery.

- 101 Biolley, François, & Son, Verviers.—Cloth and woolen stuff. 235
- 102 Biolley Bros. & Co., Juslenville, near Verviers.—Cloth and woolen stuff. 235
- 103 Chatten, M., & Co., Dison, near Verviers.—Cloth and woolen stuff. 235
- 104 Delhes Bros., Dison.—Cloth and woolen stuff. 235
- 105 Devoasse-Blaise, Dison.—Cloth and woolen stuff. 235
- 106 Dolne, Lekeux, & Co., Dison.—Cloth and woolen stuff. 235
- 107 Domken Bros., Verviers.—Cloth and woolen stuff. 235
- 108 Dreze, H. & J., Dison.—Cloth and woolen stuff. 235
- 109 Franck Bros., Dison.—Cloth and woolen stuff. 235
- 110 Henrion, J. J., Dison.—Cloth and woolen stuff. 235
- 111 Herve, Fanchamps, Verviers.—Cloth and woolen stuff. 235
- 112 Lecloux, G. J., Dison.—Cloth and woolen stuff. 235
- 113 Lejeune-Vincent, H. J., Dison.—Cloth and woolen stuff. 235
- 114 Olivier, J. J., & Son, Verviers.—Cloth and woolen stuff. 235
- 115 Peltzer & Son, Verviers.—Cloth and woolen stuff, carded woolen thread. 235
- 116 Simonis, Iwan, Verviers.—Cloth and woolen stuff. 235
- 117 Tasté, J., Verviers.—Cloth and woolen stuff, carded woolen thread. 235
- 118 Wihl, M., & Co., Verviers.—Cloth and woolen stuff. 235
- 119 Jamme, Armand, Saint Hadelin, (Nessonvaux), near Verviers.—Carded woolen thread. 235
- 120 Begasse, Charles, Liège.—Felt for paper manufacture, fag-end fabrics, and woolen bed blankets. 237
- 121 Jacobs, Poelaert, & Co., Brussels.—Woolen bed blankets. 237
- 122 Rolin, H., Son, & Co., Saint Nicholas, East Flanders.—Tartan shawls, thin, light cloth, tweeds, waterproofs, lady cloth, fancy cloths, etc. 237
- 123 Braquenié Bros., Malines.—Malines tapestry. 239
- a Portrait of Rubens panel from Gallait.
- b Portrait of Cousin, in Arabian costume.
- c Eight panels together, representing eight gods, from Olympus, with all their attributes, from Audran.
- d Full length painting—style Louis XVI.
- Silk and Silk Fabrics.**
- 124 Fonteyn Bros., Lede, East Flanders.—Black silk goods. 245
- 125 Van Bellingen, Jos., Son, Antwerp.—Black silk cassimere, Antwerp silk and trimmings. 245
- 126 Van Bellingen, J. H., & Suremont, Max, Antwerp.—Antwerp black silk tissues. 245
- Clothing, Jewelry, etc.**
- 127 Dujardin Bros., Leuze (Hainaut).—Cotton and woolen hosiery. 250
- 128 Leynen-Hougaerts, J. A. H., Peet, Province of Limbourg.—Church vestments, chasuble, and various embroideries. 250
- 128a Couvreur Sisters, Brussels.—Women's dresses. 250
- 129 Bouhon, François, Verviers.—Wooden and other shoes. 251
- 131 Frenay Bros., Roclenge-sur-Geer (Limbourg).—Braids and straw hats. 251
- 132 Level, Leon, Brussels.—Kid gloves. 251
- 133 Vandenbos-Poelman, G., Ghent.—Shoes. 251
- 134 Watrigant, Alphonse, Brussels.—Gentlemen's, ladies', and children's shoes. 251
- 135 Begerem, René, Ypres.—Valenciennes lace. 252
- 136 Crommelinck, Courtrai.—Lace. 252
- 137 Dassonville, Courtrai.—Lace. 252
- 138 Declercq-Clement, Iseghem, East Flanders.—Common lace of twisted thread. 252
- 139 Des Mares, P. T., Laeken, near Brussels.—Lace. 252
- 140 Vergnies, O. De, & Sisters, Brussels.—Lace. 252
- 141 Duden Bros., Brussels.—Lace. 252
- 142 Everaert, Julie, & Sisters, Brussels.—White and black lace. 252
- 143 Bruyneel, senior, Grammont.—Black lace. 252
- 144 Groote, Vierendeel de, Grammont.—Black lace. 252
- 145 Everaert-Leclercq, Jules, Grammont.—Black lace. 252
- 146 Everaert Sisters, Grammont.—Black lace. 252
- 147 Ghys-Bruyneel, Grammont.—Black lace. 252
- 148 Leclercq (widow), Grammont.—Black lace. 252
- 149 Saligo-Vandenbergh, Grammont.—Black lace. 252
- 150 Gillon-Steyaert, Courtrai.—Valenciennes lace. 252
- 151 Rectem, Jean, Brussels.—Gold embroidered picture. 252
- 152 Sacré, L., Brussels.—Lace. 252
- 153 Vandezande-Goemaere, Courtrai.—Valenciennes lace. 252
- 154 Verdé, Delisle Bros., & Co. (India Co.), Brussels.—Lace. 252
- 156 Coryn, Jules, Ghent, East Flanders.—Chignons and wigs. 254
- 157 Gossiaux, Félicien, Wavre (Brabant).—Hair picture. 254
- 157a Graf, Emile, Son, Liège.—Trunk. 255
- Paper, Blank Books, Stationery.**
- 158 Vandamme, Pierre Jean, Brussels.—Proofs of steel engraving for stamping with colors, illuminated with gold and silver, chromograms, and coats of arms. 258
- 159 Braff, Pfeffer, & Co., Ghent.—Raw material for the manufacture of paper, worked and cleaned rags, and old paper. 259

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 26-45.

Weapons, Medical Appliances, Animal and Vegetable Products.

- 160 De Mesmaecker, Fr., Brussels.—Samples of bindery work. 261
- 161 De Tournay-Catala, Brussels.—Printing, writing, and wrapping paper, and pasteboard. 259
- 162 Poissonniet, Jean Baptiste, Brussels.—Cases for jewelers, confectioners, druggists, etc.; card of samples. 262
- 163 Daye, F., & Co., Scharbeek, near Brussels.—Pressed leather, pasteboard made from Cordoue and Malines old hides. 264

Weapons, etc.

- 164 Fusnot, Charles, & Co., Cureghem, near Brussels.—Cartridges for weapons of every description. 265
- 165 Heuse, Ernest, Nessonvaux, near Liège.—Gun-barrels. 265
- 166 Mairlot & Heuse, Fraipont (Liège).—Gun-barrels for warfare and export. 265
- 167 Bayet Bros., Liège.—Fine weapons. 269
- 168 Neumann Bros., Liège.—Double-barreled hunting guns. 269
- 169 Tambeur, Michel, Liège.—Hunting weapons. 269

Medicine, Surgery, Prothesis.

- 170 Depuy, Barthélemy, Brussels.—Pharmaceutical preparations, pamphlets on toxicology, pharmacy, and hygiene. 272
- 173 Guillery, Hippolyte, Brussels.—Sanitary report of the battle-field at Sedan in 1870; apparatus for the rapid dressing of wounds on the battle-field, etc., and for the treatment of limb fractures. 276
- 174 Hermant, Emile, Bruges.—Treatise on flying ambulances, model of ambulance bags adopted by the Belgian government, memoir of the military physician. 276
- 174a Buys, L., Brussels.—Car for the transport of the sick and wounded. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 175 Lambert, A. de, Liège.—Files for watchmakers and jewelers. 280
- 175a Jean, Emile de, Brussels.—Collection of iron and tools for horse-shoeing. 280
- 176 Constant, Emile, Monceau-sur-Sambre, near Charleroi.—Cheese-vat bolts, clamps for rails, rivets, tinkers' ware. 284
- 177 Demanet, Albert, Gosselies (Hainaut).—Forged nails. 284
- 178 Fondu, Jean Baptiste, Brussels.—Locksmiths' work, locks for vehicles, carriages, and railway cars; nickel ware used in construction. 284
- 179 Hoorickx, Guillaume, Brussels.—Two large chests—one representing an old-fashioned Flemish trunk, the other the present style. 284
- 180 Nicaise, Charles, Louvière (Hainaut).—Locomotive and other bolts, screws for locomotives, screw nuts, rivets, clamps for rails, etc. 284

- 180a Fix, A. J., Brussels.—Nails, rivets, etc. 284
- 181 Nicaise, Pierre & Nicolas, Marcelline, near Charleroi.—Bolts, screw-nuts and rivets, spokes, and round-nose chisels, carriage tenders, clamps, etc. 284
- 182 Velings & Co., Chatelet, near Charleroi (Hainaut).—Iron wire, tacks, nails. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

- 183 Ryckere, Edouard de, senior, Iseghem, East Flanders.—Brushes and pencils. 286
- Carriages, Vehicles, and Accessories.
- 184 Ruytter, Charles de, Ghent.—Carriages. 292
- 185 Van Aken, Louis, Anversa.—Carriages. 292

AGRICULTURE.

Agricultural Products.

- 1 Le Bailly-D'Inghuem, Viscount Arthur John, Villeneuve, Switzerland.—Cereals cultivated in a sandy soil. 620
- 2 Ameys Berte, Rodolph, Ghent.—Chicory, raw, in the pod, and manufactured. 623
- 5 Vandendaele-Rigot, Charles, Quéivrain (Hainaut).—Ground mustard. 623
- 6 Delannoy, Nicholas, Tournai.—Chocolate. 623
- 6a Mottie, L., Brussels.—Tobacco and cigars. 623
- 7 Joveneau, Arthur, Tournai (Hainaut).—Powdered cocoa and chocolate; detail of chocolate manufacture. 623

Animal and Vegetable Products.

- 9 Bodart, Ed., Louvain (Brabant).—Sheepskins, white leather, morocco, salted roans. 652
- 10 Baugniet, T., & Co., Brussels.—Crystallized blood. 652
- 11 Lebermuth, J., & Co., Brussels.—Waxed leather and goat skins. 652
- 12 Ocreman, L., & Witdoeck, E., Mechlin, province of Antwerp.—Varnished skins. 652
- 13 Schmitz, F. A., & Co., Koekelberg, near Brussels.—Skins for hats; manufactured morocco leather. 652
- 15 Versé-Spelmans, Brichot, Ant., & Co., Brussels.—Curried leather. 652
- 17 Remy & Co., Louvain (Brabant).—Starch and similar products. 658
- 20 Vandendaele-Rigot, Ch., Quéivrain (Hainaut).
a Pear, apple, and beet-root syrups. 659
b Vinegar. 660
- 21 Charlier, John Baptist, Ghent.—Beer. 660
- 22 De Beukelaer, F. X., Antwerp.—Antwerp elixir, hygienic cordial. 660
- 23 Melkior, P. J., Brussels.—Liquors. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48.

Agricultural Products and Machines.

- 24 Schaltin, Pierry & Co., Spa.—Cordial, mineral waters, etc. 660
 25 Schmidt, Emile, Schaerbeck, near Brussels.—Belgian bitters, cordial. 660
 27 Bergh, van den, & Co., Antwerp.—Gin made from fine grains. 660
 29 Wauters-de-Busscher, Mechlin, Province of Antwerp.—Cordials. 660
 30 Damman, Edm., Borgerhout, near Antwerp.—Ship biscuit. 661
 31 Couvreur Sisters, Brussels.—Confections. 661
 Textile Substances of Vegetable or Animal Origin.
 32 Leclercq, Henry, Courtrai.—Flax. 666

- 33 Tauliez-Bottelier, Charles, Bruges, East Flanders.—Oakum, flax. 666
 35 Müllender, S., Verviers.—Flocks of wool and shearings. 667
 36 Delmotte, Hippolit, Ghent.—White bristles. 669

Machines, Implements, and Processes of Manufacture.

- 37 Dassonville de Saint-Hubert, L.—Namur.—Stones for grinding grain, cements, etc. 674
 38 Vandendaele, Rigot, Charles, Quievrain (Hainault).—Steam machine for manufacturing chicory. 674

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NETHERLANDS.

(North of Main Aisle, Columns 60 to 65.)

Chemicals, Ceramics, Furniture, Woven Goods, Silk.

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- 1 Matthes, W. E., Amsterdam.—Sulphate of ammonia. 200
- 2 Gorter, D. & S., Sneek.—Soap. 201
- 3 Willems, P. J., Schiedam.—Oils. 201
- 4 Sauders & Co., Leyden.—Soaps. 201
- 5 Henny, C. O., Deventer.—Glue. 202
- 6 Van Calker, P. W., Utrecht.—Glue. 202
- 7 Verrocy & Van Heusde, Tiel.—Dyes, turpentine, inks, wax, colors, salves. 202
- 8 Grootes, M., Westzaan.—Blueing. 202
- 9 Leur, W., Schooten, near Haarlem.—Red lead made from iron ore. 202
- 10 Mills, M. A.—Inks. 202
- 11 Vriesendorp, H. M., Dordrecht.—Oils and varnish. 202
- 12 Lousbergh, V., Gravenhage.—Colors. 202
- 13 Van den Bergh, N. L. J., Arnhem.—Cologne. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 14 Van Bergen, A. H., Heiligerlee, Province of Groningen.—Stone and drain tiles. 206
- 15 Van Henkelom, H. C., Utrecht.—Building stone. 206
- 17 Koolemans-Beijnen, C. G. L., Willeskop.—Architectural pottery. 206
- 18 Goedwaagen, P., Gouda.—Chemical stoneware and stoves. 207
- 19 Fontein, R., Franeker.—Roofing tiles. 208
- 20 Ravesteijn, H. F., Westraven.—Painted wall stone. 208
- 21 Bouvy, J. J. B. J., Dordrecht.—Glassware. 214

Furniture and Objects of General Use in Construction and in Dwellings.

- 22 Nooijen, L. J., Rotterdam.—Furniture and fancy articles. 217
- 23 Van Vliet, W. F., Gravenhage.—Chairs. 217
- 24 Lowman, J., Zwolle.—Folding screen. 217
- 25 Van der Lugt, Gravenhage.—Furniture and fancy articles. 217
- 26 Lommen, C. H., Roermond.—Painted and cut glass. 219
- 27 Grolman, C. W., Utrecht.—Picture frames. 220
- 28 Batenburg & Co., Rotterdam.—Lamps. 223
- 29 Cool, G. Ths., Amsterdam.—Mantels. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 31 Director of Prison, Utrecht.—Matting and rugs. 229
- 32 Ter Horst, J. H., Ryssen.
a Jute matting. 229
b Linen. 233
- 33 Arntzenius, Jannink, & Co., Goor.—Fish nets and yarn. 230
- 34 Hilversumache Spinning & Weaving Manufactory, Amsterdam.—Spun and woven cotton goods. 230
- 35 Planteijdt, L., Krommenie.—Thread cloth and canvas. 230
- 36 Maasen Zonen, A. E., Scheveningen.—Fish nets. 230
- 37 Bottenheim, D. & S., Amsterdam.—Yarns. 230
- 38 Stork, C. F., Hengeloo.—Colored woven goods. 231
- 39 Swinkels, W., Helmond.—Yarns. 231
- 40 Veltman, J. A., jr., Amsterdam.—Covers and scarfs. 232
- 41 Veetman, J. A., Amsterdam.—Scarfs. 232
- 42 Elias, J., Strijp.—Table cloths, napkins, and dress goods. 233
- 43 Nieuwenhuizen & Van Stratum, Geldrop.—Towels, napkins, and table cloths. 233

Woven and Felted Goods of Wool, etc.

- 44 Tilburg Woolen Manufacturing Co.—Flannels, opera cloaks, and fancy goods. 236
- 45 Zaalberg, J., Leyden.—Woolen covers. 237
- 46 De Lange, A. G., Delft.—Imitation Smyrna rugs. 239
- 47 Garjeanne, A. G., Delft.—Imitation Smyrna carpets. 239
- 48 Royal Carpet Manufactory, Deventer.—Deventer hangings. 239
- 49 Prins, M., Deventer.—Artificial wool and cowhair carpets. 239
- 50 Van Leer, B., Amersfoort.—Hangings. 239
- 51 Veelo, P. J., Gravenhage.—Sofa cloths. 241

Silk and Silk Fabrics.

- 52 Travaglino, P. J. & W. J. P., Haarlem.—Silks. 244

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 54 Wienbelt, W., Deventer.—Boots. 251
- 55 Costermans, C., jr., Gravenhage.—Trunks, satchels, and bags. 255

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-6.

NETHERLANDS EAST INDIAN COLONIES. 221

Stationery, Weapons, Medical Appliances, Hardware.

Paper, Blank Books, and Stationery.

- 56 Loeber, G., Amsterdam.—Stationery. 258
 57 Abrahams Bros., Middleburg.—Blank books. 261
 58 Simons, Ph., Gravenhage.—Bindings for maps, etc. 261
 59 Cramer, H. G. D., Ootmarsum.—Pasteboard. 262
 60 Van der Burgh, M., Schiedam.—Imitations of marble and wood. 264
 61 Van der Burgh, A. R. & P., Rotterdam.—Imitations of marble and wood. 264
 62 Rijperman, C. J. F., Veizen.—Wood painting. 264
 63 Dobbe, J. P., Gravenhage.—Wood and marble painting. 264
 64 Kerkhoven, R., Utrecht.—Wood and marble painting. 264

Weapons, etc.

- 65 Government Arm Manufactory, Delft.—Army rifle. 265
 66 Betou, J. P. de, Delft.—Breechloading rifle. 265

Medicine, Surgery, Prothesis.

- 67 Van de Loo, J. P. H., Venlo.—Plaster and bandages. 276
 68 Schokking, J. A. J., Amsterdam.—Conical tube for injections. 276
 70 Krol, W., Kampen.—Plasters and bandages. 276
 71 Mathijssen, A., Budel.—Plaster and bandages. 276
 73 Gori, M. W. C., Amsterdam.—Water and land conveyances for sick and wounded. 278
 74 Committee on Sick & Wounded Soldiers.—"Work of the "Red Cross." 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 75 Erdman-Schmidt, J. D., Helmond.—Cast engraving plates. 280
 77 Enthoven, H. S., Zalt-Bommel.—Tinned iron kitchen utensils. 284
 78 Van Heukelom, H. C., Utrecht.—Machine screws. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

- 79 Reus, N., Pzn, Dordrecht.—House and ship brushes. 286

NETHERLANDS EAST INDIAN COLONIES.

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Building Stones, and Mining Products.

- 1 Netherlands Commission.
 a Gold, quicksilver, lead, and hematite iron ores; sulphur, feldspar, quartz, porphyry, trachyte, obsidian, garnet rocks, talc, flinty schist. 100
 b Coal. 101
 c Marble, granite, sandstone, syenite, diorite. 102
 d Limestone. 103
 e Clays, chalk bamboe. 104

Metallurgical Products.

- f Gold, from Soepayang. 110
 g Block tin. 113

Chemical Manufactures.

- h Nutmeg soaps. 101
 i Indigo. 102

Ceramics—Pottery, Porcelain, etc.

- j Water jug. 110

Furniture and Objects of General Use in Construction and in Dwellings.

- k Table, benches, rocking chairs, footstools. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

- l Mats, fabric of beaten bark. 229
 la Native cotton thread. 230
 lb Native calico. 232

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- m Native garments of silk, cotton, etc. 235
 n Native caps, headkerchiefs, plaited hats, and Chinese slippers. 234

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-43.

Manufactures, Agricultural Products.

- o Lace, silk embroideries, embroidered handkerchiefs, etc. 252
 p Silver filigree necklace, brooches, earrings, and bracelets. 253
 q Artificial flowers, lacquered boxes, cases, fruits, etc.; nutmeg-tree made of feathers; flower baskets, cigar cases, vases, box, native boat and sedan chair made of cloves, book mark, tortoiseshell covers, models of Malay dwelling, chapel, rice barns, baskets, tea-set of silver filigree work, etc. 254

Weapons, etc.

- r Native weapons, small models of inland arms. 265
 s East Indian weapons, creeses, swords, knives, sabres, head-choppers, blow pipes for arrows, arrows, and shields. (Loaned by His Majesty the King of the Netherlands.) 265

Medicine, Surgery, Prothesis.

- t Alkaloids from cinchona bark, quinine, quinine, quinidine, cinchonine, cinchonidine, and cinchona powder; gum damar, catechu. 272

Hardware, Edge Tools, Cutlery, Metallic Products.

- u Small models of inland tools. 280
 v Rice knife. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

- w Ropes made of fibres of native trees and plants. 287
 x Baskets, lacquered wooden box and trays. 289

Arboriculture and Forest Products.

- y Cotton reels; East Indian loom; trunks, roots, barks, etc., of various species of the cinchona tree; collection of native woods; leaves, fruit, and pulp of the vegetable tallow tree; samples of bamboo. 600
 z Ebony, sapan, and fustic woods. 601
 aa Gutta-percha, gutta-gitang, gutta-soesoe, India-rubber, agar-agar, gum benjamin, camphor, dragon's blood, vegetable talc, etc. 603

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- bb Wild nuts, binamoe, langa bidjan, laodoeri flue seeds, sapo ranto, fruit, preserved wild nutmegs, etc. 605

Agricultural Products.

- cc Rices, hulled, unhulled, and in the stalk; millet, dragong wheat. 620
 dd Biehkoero and tarok roots. 622
 ee Coffees, teas, cocoa, nutmegs, white and black peppers, mace, cloves, tobacco. 623

Land Animals.

- ff Birds of Paradise.

Marine Animals, Fish Culture and Apparatus.

- gg Tripang fish. 641
 hh Turtles. 643
 ii Mother-of-pearl shells. 645

Animal and Vegetable Products.

- jj Edible birds' nests. 650
 kk Tiger skins. 652
 ll Wax. 654
 mm Preserved victuals. 656
 nn Arrow-root, sente, ketella, red obi, tales, aren, cassava, and potato flours. 657
 oo Sago. 658
 pp Sugars. 659
 qq Arrack. 660
 rr Kajoe-poeti, Macassar, and Tekawan oils. 662

Textile Substances of Vegetable or Animal Origin.

- ss Kapok (cotton), cotton. 665
 tt Ramie flax, leaves, etc.; oakum; fibrous materials from trees and plants; rattan, samanboe pipit, and samanboe be-ar reeds. 666
 uu Imitation clove-tree. 709
 2 Bernelot, Moens, J. C.—Herbarium exhibiting the cinchona cultivation in Java. 721
 3 Noordendorp, J., Amsterdam.—Photographs of the government cinchona establishments, and the Bouda Temple at Boro Bodor. 430

DENMARK.

(South of Nave, Columns 11 to 13.)

Manufactures, Education and Science.

Chemical Manufactures.

- 1 Aalborg Chemical Works, Aalborg.—Bicarbonate and carbonate of soda. 200
- 2 Holmblad, L. P., Copenhagen.—Stearine candles. 201
- 3 Guldberg, C. Hoegh, Copenhagen.—Varnish, and wood polished with it. 202
- 4 Hansen, C., Copenhagen.—Cheese rennet extract and coloring fluid; butter coloring. 202
- 5 Meyer & Henckel, Copenhagen.—Butter and cheese coloring, cheese rennet extract, varnishes. 202
- 6 Riise, A. H., St. Thomas, West Indies.—Double-distilled bay spirit and oil of bay leaves. 203
- 7 Odense Match Factory, Odense.—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 8 Hesse, Georg W., Copenhagen.—Terra-cotta vases, jugs, etc. 206
- 9 Ipsen's, P., widow, Copenhagen.—Terra-cotta vases, tazzas, figures, etc. 206
- 10 Wendrich & Son, Copenhagen.—Terra-cotta bas-reliefs, bowls, vases, etc. 206
- 11 Royal Porcelain Manufactory, Copenhagen.—Biscuit bas-reliefs after Thorwaldsen, exhibited by the Commissioner. 212
- 12 Argentine Manufactory, Copenhagen.—Porcelain covered with copper, silver, and gold. 213

Furniture and Objects of General Use in Construction and in Dwellings.

- 13 Hansen, C. B., Copenhagen.—Furniture. 217
- 14 Meidel, F., Copenhagen.—Fire-proof safes. 217
- 15 Christesen, V., Copenhagen.—Silverware; large table ornament of silver, representing Art, Science, and Industry; tea and coffee sets, etc. 218
- 16 Stenstrup, Copenhagen.—Sign painting. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 17 Ramsing, Th., Aarhus.—Dyed linen fabrics. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

Woven and Felted Goods of Wool and Mixtures of Wool.

- 18 Müller, H., Faroe Islands.—Woolen goods. 235

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 19 Möller, C., Copenhagen.—Water-proof oil clothing. 250
- 19a Sorensen, C. P., Copenhagen.—Hand-sewed black coat, waistcoat, and pantaloons. 250
- 20 Larsen, N. F., Copenhagen.—Gloves. 251
- 21 Christesen, V., Copenhagen.—Jewelry and ornaments. 253
- 22 Assam, H. M., Odense.—Tobacco pipes, etc. 254
- 23 Ovre, Mrs., Copenhagen.—Artificial flowers. 254

Paper, Blank Books, Stationery.

- 24 Holmblad, L. P., Copenhagen.—Playing cards. 262
- 25 Hansen, Carl, & Co., Ebeltoft.—Impregnated pasteboard. 262

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 25a Engelbrecht, C., Copenhagen.—Pair of water-skates. 281

Educational Systems, Methods, and Libraries.

- 1 Hveisel, G., Randers.—School maps. 300
- 2 Simonsen, C., Copenhagen.—"Punch," an illustrated paper. 306
- 3 Steenberg, A., Copenhagen.—"Industridenden," an industrial paper. 306

Institutions and Organizations.

- 4 Browning, Georg, Copenhagen.—Ethnographical collection, products, minerals, etc., from Iceland and Faroe Islands. 312
- 5 Müller, H., Faroe Islands.—Collection of birds, feathers, eggs, etc. 312
- 6 Harboe, C., Copenhagen.—Ethnographical collection; products, minerals, etc., from Greenland. 3

Science, Art, Machinery, Agricultural Products.

Scientific and Philosophical Instruments and Methods.

- 7 Bie, C., Aalborg.—Arithmometer. 321
 8 Ferslew, C., & Co., Copenhagen.—Register for cars, etc. 323

Engineering, Architecture, Maps, etc.

- 9 The Royal Staff, Copenhagen.—Topographical maps. 335
 10 Steen, C., & Son, Copenhagen.—Geographical, historical, meteorological, and other maps. 335

Sculpture.

- 10a Fjeldskov, V., Copenhagen.—Carving in wood, statuettes, medals, etc. 405
 a Sailor.
 b Viking.
 c Crucifix.
 d Peasant.
 e Children.
 f Friends.
 g Spring.
 h Thorwaldsen.
 i Goethe.
 j Angelo.
 k H. C. Andersen.
 l Oersted.

Painting.

- 10b Ferslew, C., & Co., Copenhagen.—Lithographs. 413

Industrial and Architectural Designs, etc.

- 10c Hetsch, Chr., Copenhagen.—Architectural designs. 441

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Ambrosiussen, O. P., Copenhagen.—Model of a scaffold. 503

Machines and Implements of Spinning, Weaving, Felting, and Paper-making.

- 2 Tullesen, P., Lyngby.—Hair-braiding machine. 524

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 3 Henriksen, H., Copenhagen.—Sewing machine. 531

Machines for Printing, Making Books, Paper-working, etc.

- 4 Hansen, R. Malling, Copenhagen.—The tachygraph, operated by electricity, and the type-writing ball, operated by hand. 542

Motors, Power Generators, etc.

- 5 Godfredsen, R., Copenhagen.—Belt-ing, etc., for transmission of power. 553

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28

Arboriculture and Forest Products.

- 1 Halkier, P. A., Copenhagen.—Timber, planks, boards, rough and finished, for buildings, etc. 500

Agricultural Products.

- 2 Wendt, Frantz, Roeskilde.—Rye, winter and spring wheat, barley, and oats. 620

Animal and Vegetable Products.

- 3 Danish Preserved Butter Co., Aarhus.—Canned butter for export. 651
 4 Heymann, P. W., Copenhagen.—Preserved butter for export, also butter which was at the Vienna Exposition in 1873. 651
 5 Copenhagen Leather Manufactory, Copenhagen.—Consolidated leather soles, heels, sheets, etc. 652
 6 Pork Packing Co., Copenhagen.—Lard packed in bladder. 652
 7 Eriksen, C., Lyngby.
 a Honey and wax. 654
 b Mead. 660
 8 Müller, P. A. E., Copenhagen.—Honey and wax. 654
 9 Herreborg, Otto, Copenhagen.—Preserved fruit, vegetables, jellies, etc. 656
 10 Brøndum, A., Copenhagen.—Corns brandy and table liquor. 660
 11 Aalborg Syrup & Spirit Factory, Aalborg.—Table liquor and spirit. 660
 12 Anthony, F., Copenhagen.—Brandy and liquors. 660
 13 Been, C. A., Copenhagen.—Liquors, etc. 660
 14 Gottschalk, I. C., Holbek.—Essences. 660
 15 Heering, Peter F., Copenhagen.—Cherry cordial. 660
 17 Lorenzen, L., Aarhus.—Bitter cordial. 660
 18 Odin Distillery, Randers.—Corns brandy flavored with caraway seeds, table liquor, and rectified spirit. 660
 19 Sabro, I. C., Randers.—Bitters, etc. 660
 19a Farch, J., & Sons, Nibe.—Alcohol, raw spirits, and brandy. 660
 20 Schucani & Wegmann, Copenhagen.—Liquors, bitters, etc. 660
 21 Svanholm Brewery, Copenhagen.—Beer for export. 660
 22 Ramsing, T., Aarhus.—Chocolate. 661
 Textile Substances of Vegetable or Animal Origin.
 23 Müller, H., Faeroe Islands.—Wool. 667
 Machines, Implements, and Processes of Manufacture.
 24 Schütz, Thurebyholm.—Model of milk cooler. 675
 Agricultural Engineering and Administration.
 25 Aalborg Chemical Works, Aalborg.—Artificial bone manure.

SWEDEN.

(North of Nave, Columns 6 to 11.)

Chemicals, Ceramics, Furniture.

Chemical Manufactures.

- 1 Aseptin Amykos Stock Co.
a Upsala Aseptin, for preservation of provisions and animal materials. 200
b Upsala amykos, used as a cosmetic. 203
- 2 Bengtsson, B., Astra Torp, Trelleborg.—Chemicals. 200
- 4 Friestedt, A. W., Stockholm.—Chemicals. 200
- 5 Gullberg Stock Co. (limited), Göteborg.—Sulphuric acid. 200
- 6 Liljeholmen Stearine Manufacturing Stock Co., Stockholm.—Stearine candles, oleine, glycerine, and stearine. 201
- 7 Sjöberg, A. P., Malmö.—Soaps. 201
- 8 Werner, C. O., Stockholm.—Bone oil. 201
- 14 Strandberg, Fr. Aug., Jönköping.—Varnishes, ink. 202
- 17 Granholm, J. P., Stockholm.—Rectified amykos. 203
- 18 Pauli F., Stockholm.—Essences, perfumery, cosmetics. 203
- 21 New Match Manufacturing Co. (limited), Stockholm.—Safety matches. 204
- 22 Berg, Gottfried Warby, Stockholm.—Gunpowder. 204
- 23 Blombacka Stock Co., Molkom.—Safety matches and their raw materials. 204
- 24 Guesta Match Manufactory, Stockholm.—Paraffined safety matches. 204
- 25 Holmberg, Eric, Södertelje.—Safety matches. 204
- 26 Jönköping Match Manufacturing Co. (limited), Jönköping.—Safety matches. 204
- 27 Kreuger, P. E., & Jennings, Kalmar.—Safety matches. 204
- 28 Ellbo Göteborg Match Factory, Göteborg.—Matches. 204
- 29 Lindahl, J. F., Kalmar.—Safety matches. 204
- 30 Lover Manufacturing Co. (limited), Kalmar.—Matches. 204
- 31 Norrköping Match Manufacturing Co. (limited), Norrköping.—Safety matches and appurtenances. 204
- 32 Stregnas Match Manufacturing Co. (limited), Stregnäs.—Safety matches. 204
- 33 Phoenix Match Manufacturing Co. (limited), Malmö.—Matches. 204
- 34 Vulcan Match Manufacturing Co. (limited), Göteborg.—Matches. 204

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

- 35 Westervik Match Factory, Westervik.—Matches. 204
- 36 Wisby Match Manufacturing Co. (limited), Wisby.—Matches. 204
- 37 Ystad Match Manufacturing Co. (limited), Ystad.—Safety matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 39 Helsingborgs Iron and Stone Ware Manufacturing Co. (limited), Helsingborg.—Salt glazed clay goods. 207
- 40 Höganäs Coal Mining Co., Höganäs.
a Fire clay goods. 207
b Tiles for pavements. 208
- 42 Gustafsbergs Manufacturing Co., Stockholm.
a Architectural pottery. 206
b Faience. 210
c Biscuit ware and parian. 212
d Porcelain and Argentine. 213
- 43 Rörstrands Stock Co. (limited), Stockholm.
a Faience. 210
b Majolica and palissy ware. 211
c Biscuit ware and parian. 212
d Porcelain. 213
- 46 Malmö Porcelain Manufacturing Co., Malmö.—Porcelain for table use. 213
- 47 Brusewitz, Fr., Limmared.—Glassware. 215
- 48 Reymyre Glass Factory (limited), Reymyra.—Glassware. 215

Furniture and Objects of General Use in Construction and in Dwellings.

- 49 Backman, J. F., Stockholm.—Safe. 217
- 50 Glömsta Manufacturing Co. (limited), Huddinge.—Cottage furniture. 217
- 51 Lastbom, Iven, Stockholm.—Cupboard of birchwood. 217
- 52 Peterson, C. E., Stockholm.
a Table. 217
b Frame. 220
- 53 Rambach, C. Stockholm.—Chair. 217
- 54 Rusch, P. O., Göteborg.—Japaned furniture. 217
- 54a Holm, F. F. W., Stockholm.—Furniture. 217
- 55 Sandberg, A. Cook, Stockholm.—Writing chair. 217
- 56 Wahlström, S. Fr., Stockholm.—Willow furniture. 2

Furniture, Woven Goods, Clothing, Stationery.

- 57 Osterberg, C. G., Jäder, Eskilstuna.—School furniture. 217
- 58 Bruzewitz, Fr., Limmared.—Table glass. 218
- 59 Goldsmiths' Stock Co. (limited), Stockholm.—Silver tankard. 218
- 60 Gustafsberg Manufacturing Co., Stockholm.—Table china. 218
- 61 Reymyre Glass Factory (limited), Reymyra.—Table glass. 218
- 62 Rörstrand Stock Co. (limited), Stockholm.—
a Table china. 218
b Stoves. 222
- 64 Bolinders, J. & C. G., Machine Co. (limited), Stockholm.—
a Heating apparatus. 222
b Stove for smoothing-irons. 225
- 65 Hedengren, A. F., & Son, Eskilstuna.—Stove sets. 222
- 66 Eriksson, G., Eskilstuna.—Brass doors for stoves. 222
- 68 Moberg Machine Co., Stockholm.—Range. 222
- 73 Elfving, C. E., Stockholm.—Apparatus for cutting lamp wicks. 223
- 74 Kuntze & Co., Stockholm.—Water filters, refrigerators. 224
- 74a Kallinge Iron Works, Ronneby.—Kitchen utensils of iron and steel sheets. 224
- 75 Lafquist, J. A., Eskilstuna.—Smoothing-irons. 225
- 76 Björk, J. O., Eskilstuna.—Hardware of mottled iron. 227
- 77 Dickson, James, & Co., Sandarne.—Woodwork for buildings. 227
- 78 Essen, Baron H. H. von, Tidaholm.—Woodwork for buildings. 227
- 79 Hedlund, Joh., Eskilstuna.—Metal work for buildings. 227
- 82 Wengström, J. O., Stockholm.—Manufactured parts of buildings. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 83 Anderson, J., Kjärtingagårde, Gnosjö.—Wire and sieve cloth. 228
- 81 Berg, J. Th., Nääs, Floda.—
a Cotton yarns. 230
b Dyed cotton yarn. 231
- 86 Malmö Manufacturing Co. (limited), Malmö.—
a Cotton yarns. 230
b Dyed cotton fabrics. 231
- 87 Rosenlunds Spinning Co. (limited), Göteborg.—Cotton yarns and fabrics. 230
- 89 Johansson & Carlander, Göteborg.—Calicoes. 232
- 90 Stenburg's, G., Widow, Jönköping.—Linen fabrics. 233

Woven and Felted Goods of Wool, etc.

- 91 Bergsbro Stock Co., Norrköping.—Card-wool fabrics. 235
- 92 Drag Stock Co. (limited), Norrköping.—Card-wool fabrics. 235
- 93 Landskrona Manufacturing Co., Landskrona.—Card-wool fabrics. 235

- 94 Malmö Woolen Manufacturing Co. (limited), Malmö.—Card-wool fabrics. 235
- 95 Stockholm Woolen Manufacturing Co. (limited), Stockholm.—Woven and felted goods of wool. 235

Silk and Silk Fabrics.

- 96 Almgren, K. A., Stockholm.—Plain woven silks. 245

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 98 Ek, J. A., Stockholm.—Military equipments. 250
- 99 Fernlund, E. F., Stockholm.—Military and civil clothing. 250
- 100 Heurlin, G. U., & Co., Stockholm.—Military clothing. 250
- 101 Royal War Office, Department of Investment, Stockholm.—Complete equipment of foot and mounted soldiers; specimens of cloth, linen, etc. 250
- 103 Swedmark, G., Malmö.—
a Leather jackets. 250
b Gloves. 251
- 104 Wallgren, A. R., Stockholm.—Military clothing. 250
- 105 Forsell, David, & Co., Stockholm.—
a Hats and caps. 251
b Furs. 256
- 106 Jacobson & Anderson, Malmö.—Gloves. 251
- 107 Svanberg, C. E., Jönköping.—Shoes. 251
- 109 Tornberg, Olof, Göteborg.—Boots and shoes. 251
- 110 Odberg, C. R., Stockholm.—Hunting boots. 251
- 111 Peterson, C. E., Stockholm.—Embroidered portrait of Washington. 252
- 112 Klintberg, J. W., & Co., Wisby.—Jewelry made of petrifications. 253
- 113 Anderson, J., Kjärtingagårde, Gnosjö.—Pins. 254
- 114 Berg, F. J., Göteborg.—Wigs, braids, and chignons. 254
- 114a Clarborg, T. A., Stockholm.—Jewel case. 254
- 116 Bergström, P. N., Stockholm.—Furs. 256
- 118 Royal Swedish Commission, Stockholm.—Life-size figures, dressed in national costume. 257
- Paper, Blank Books, Stationery.**
- 119 Berggren, A. N., Stockholm.—Pen-holders of cork. 258
- 120 Brunell, J. E., Stockholm.—Pen-holders of common reed. 258
- 121 Klintberg, J. W., & Co., Wisby.—Letter-presses of petrifications. 258
- 122 Kullgren's, C. A., Widow, Uddevalla.—Letter-presses of polished granite. 258
- 123 Nordström, M. S., Stockholm.—Stamps for marking on linen or paper. 259
- 125 Munktel, J. H., Grycksbo, Falun.—
a Filtering paper. 259
b Wood pulp. 259

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. vii-viii

Paper, Weapons, Medical Appliances, Hardware.

- 127 Nynäs Pasteboard Factory, Nynas, Mavida.**—Pasteboard. 260
- 129 Lewenhaupt, Count, Sten, Wernbohl, Katrineholm.**—Wood pulp, chemically prepared. 260
- 130 Malmö Wood Pulp Manufacturing Co. (limited), Delaryd, Elmhult.**—Wood pulp, chemically prepared. 260
- 131 Munkedal Manufacturing Co. (limited), Uddevalla.**
a Wrapping, bagging, and sketching paper. 260
b Building papers. 263
c Wall paper. 264
- 132 Munksjö Paper Factory, Jönköping.**—Wrapping paper. 260
- 133 Rosendahl Manufacturing Co., Göteborg.**—Paper pulp of wood and straw, paper. 260
- 134 Wargöns Stock Co., Rannum.**—Printing paper for newspapers. 260
- 135 Litografiska Stock Co., Norrköping.**
a Blank books, sets of account books, billheads, etc. 261
b Playing cards. 262
- 136 Tidström, C. W., Stockholm.**—Account books, portfolios. 261
- 137 Djupafor's Manufacturing Co. (limited), Konneby, Djupafor.**—Pasteboard; building paper. 262
- 138 Köhler & Co., Malmö.**—Playing cards. 262
- 140 Munksjö Paper Mill, Jönköping.**—Building paper. 263
- 141 Edgren, Julius, Jönköping.**—Wall paper. 264
- 142 Kaberg, C. A., Stockholm.**—Wall paper. 264
- 143 Mineur, C. G., Stockholm.**—Wall paper, imitation of leather, and ornaments of wood pulp. 264
- 145 Rosell, P. A., & Co., Jönköping.**—Wall paper. 264

Weapons, etc.

- 146 Husqvarna Arms Manufacturing Co. (limited), Jönköping.**
a Military small arms, muskets, and revolvers. 265
b Fire arms for sporting and hunting. 269
- 147 Royal War Office, Artillery Department, Stockholm.**
a Military small arms from the royal factory at Carl Gustafs Stad. 265
b Field gun with carriage, ammunition carriage, field forge. 266
c Fortification ordnance with carriage and shots. 267
- 148 Motala Mechanical Works Co. (limited), Motala.**—Hoops for guns. 266
- 149 Palmcrantz, Helge, Stockholm.**—Mitrailleuse. 266
- 150 Ekman, Carl, Finspong, & De Maré, A., Ankarsrum.**—Steel guns and shot. 267
- 151 Eskilstuna Iron Manufacturing Co. (limited), Eskilstuna.**—Blades of swords, sabres, foils, and hunters' hangers. 268
- 153 Norrström, C. A. & C. H., Eskilstuna.**—Hunting knives. 268

Medicine, Surgery, Prothesis.

- 154 Pitz, G., Stockholm.**—Medicated gelatine. 273
- 155 Lamm, Axel, M., Stockholm.**—Galvano-caustic apparatus, gynecological apparatus. 275
- 156 Royal War Office, Sanitary Department, Stockholm.**—Surgical instruments for military use. 276
- 157 Stille, Alb., Stockholm.**—Surgical instruments. 276
- 158 Zander, G., Stockholm.**—Apparatus for mechanical gymnastics. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 159 Eskilstuna Iron Manufacturing Co. (limited).**—Screw plates and hinges. 280
- 160 Liberg, B. & O., Rosenfors.**
a Edge tools. 280
b Cutlery. 281
- 161 New File Manufactory, Eskilstuna.**—Files. 280
- 162 Oberg, C. O., & Co., Eskilstuna.**—Files. 280
- 163 Fagersta Iron & Steel Works, Westanfors.**
a Saws. 280
b Nails. 284
- 164 Uddeholm Stock Co. (limited), Råda.**
a Hand tools. 280
b Springs and hardware. 284
- 165 Engström, Joh., Eskilstuna.**—Razors. 281
- 166 Gustafson, G., Eskilstuna.**—Knives. 281
- 167 Halling, A., Eskilstuna.**—Knives. 281
- 168 Heljestrand, Christoffer, Eskilstuna.**—Razors, knives, and corkscrews. 281
- 169 Ståhlberg, L. F., Ståhlfors.**—Cutlery. 281
- 170 Svalling, E. M., Eskilstuna.**—Knives. 281
- 171 Söderén, F. W., Eskilstuna.**—Knives. 281
- 172 Hedlund, Joh., Eskilstuna.**—Locks. 284
- 173 Jernberg, S., Eskilstuna.**—Latches. 284
- 174 Lafqvist, J. A., Eskilstuna.**—Hinges. 284
- 175 Lagerbäck, H., Eskilstuna.**—Locks. 284
- 178 Stenman, F. A., Eskilstuna.**—Locks. 284
- 179 Strandberg, J., Eskilstuna.**—Brass. 284
- 181 Walén, Joh., Eskilstuna.**—Locks. 284
- 182 Johnson, A. & Co., Stockholm.**—Cart springs. 281

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metal, Leather, Wooden Ware.

183 Kallinge Iron Works, Ronneby.—
Nails. 284

183^a New Gellivara Co. (limited),
Luleå.—Nails. 284

184 Robson, Albert, Aspa, Askersund.
—Oak spikes. 284

185 Sundström, J. O., Charlottenberg.
—Nails. 284

187 Wiklund, W., Stockholm.—Brass
hardware. 284

Fabrics of Vegetable, Animal, or
Mineral Materials.

189 Tuxen, Louis von, Stockholm.—
Fabrics of patent leather. 285

190 Olsson, M., Arnäs, Lina.—Flower
stand, willow chair and basket. 289

191 Kallinge Iron Works, Ronneby.—
Galvanized iron vessels. 291

192 Karlskrona Galvanizing Stock Co.
(limited), Karlskrona.—Galvanized sheet
iron. 291

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NORWAY.

(North of Nave, Columns 4 to 7.)

Textiles, Ceramics, Woven Goods, Clothing.

Chemical Manufactures.

- 1 Bergen Gas Works, Bergen.—Sulphate of ammonia, raw and refined. 200
- 1^a Bergen's Commercial Association, Bergen.—Cod-liver oil. 201
- 2 Borthen, J., Trondhjem.—Medical cod-liver oil. 201
- 3 Hanssen, F., Aalesund.—Medical cod-liver oil. 201
- 4 Devold, L. C., Aalesund.—Medical cod-liver oil. 201
- 4^a Henriksen, J. H., Tromsø.—Medical cod-liver oil. 201
- 5 Jordan, C., Trondhjem.—Medical cod-liver oil. 201
- 6 Møller, Peter, Christiania. — Cod-liver oil. 201
- 6^a Bordewick & Co., Lynsvor.—Medical cod-liver oil. 201
- 7 Steen, Daniel, Christiania.
 ^a Soaps. 201
 ^b Essences, perfumery, pomades, cosmetics. 203
- 8 Holmen's, G. R., Technical Works, Fuglesang, Christiania.—Writing ink, aseptic, diamond oil blacking, grease for leather. 202
- 10 Rode, C. N., Porsgrund.—Scandinavian ink, writing and copying, dark violet copying ink. 202
- 11 Pettersen, Andr., Bergen.—Hair dressing and perfumery. 203
- 12 Dons, Henrik, Christiania.—Matches from Bryn manufactory. 204
- 16 Jølsens, H., Match Manufactory, Christiania.—Matches. 204
- 17 Nitedals Match Manufactory, Christiania.—Safety and common matches. 204
 (For fish oil, see Agricultural Catalogue, page 61.)

Ceramics—Pottery, Porcelain, Glass, etc.

- 17^a Havnven's Works, Christiania.—Tiles and bricks. 206
- 18 Schwarzenhorn, Fr. von, Christiania.—Painted and decorated porcelain. 213
- 19 Hurdal, Biri, Hadeland & Høvik's Glass Works.
 ^a Window glass. 214
 ^b Bottles. 215
 ^c Glassware. 216
- 20 Bergen's Glass Works.—Floaters. 215

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture and Objects of General Use in Construction and in Dwellings.

- 21 Gram, Wm., Christiania.
 ^a Antique bedstead and cupboards. 217
 ^b Antique brass and copper dishes. 218
 ^c Candlesticks. 223
- 22 Holst, Chr., Head Steward to His Majesty the King, Christiania.—Buffet chairs, antique arm chairs, peasant chairs. 217
- 23 Klemetsen, Chr., Christiania.—The fittings of the Norwegian section. 217
- 24 Moestue, Thv., & Co., Christiania.—Iron safe. 217
- 25 Opsahl, P. J., Christiania.—Iron safes. 217
- 28 Drammen Foundry and Mechanical Works, Drammen.—Stoves. 222
- 29 Nord & Son, M. E., Christiania.—Refrigerator. 224
- 30 O. Jacobsen's Mechanical Works, Christiania.—Mechanical mangle. 225
 (For stoves, see page 88.)
 (For door-handles, see page 88.)

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 31 Christiania Sail Cloth Manufactory, Christiania.—Sail cloth, fishing yarns, etc. 230
- 32 Nydalens Company, Christiania.—Cottons, sail cloth, tissues, and yarns, fishing nets, etc. 230
- 34 Eche, J. D., & Son, Bergen.—Floor oil cloths and painted window blinds. 234

Woven and Felted Goods of Wool and Mixtures of Wool.

- 36 Pettersen, Gunerius, Christiania.—Textile domestic industry; valises. 238

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 40 Falkenberg, Johs., Christiania.—Ready-made linen. 250
- 41 Næss, H. S., Christiania.—Boots and shoes. 251
- 42 Nordahl, Petter N., Christiansand.—Boots. 251
- 43 Falck-Yster, Christiania.—Snow shoes. 251
- 44 Gramm, Wm., Christiania.
 ^a Collection of antique and modern silver ornaments worn upon the person. 251
 ^b National costumes from Hardanger. 251

Fancy Goods, Paper, Hardware, Carriages, Machinery.

- 45 Lie, P. A., Christiania.—Silver filigree work in Norwegian style. 253
 45a Olsen, Th., Bergen.—Filigree silver ornaments. 253
 46 Tostrup, J., Christiania.—Silver work; silver filigree work in specific Norwegian style. 253
 49 Kittelsen, Jens, Christiania.—Valises. 255
 50 Brandt, C., Bergen.—Furs, skins, etc. 256
 51 Rustad, A. S., Drammen.—Collection of Norwegian furs. 256

Paper, Blank Books, and Stationery.

- 53 Haneberg, A. O., Christiania.
 a Paper. 260
 b Wood pulp for paper manufacturing. 263
 54 Moestue, Thv., & Co., Christiania.
 a Account books. 261
 b Pasteboard boxes. 262
 55 Christophersen, Chr., Christiania.—Wood pulp for paper manufacturing. 263
 56 Frølich, F. H., & Son, Christiania.—Paper hangings and borders. 264

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

- 57 Gram, William, Christiania.—Antique weapons. 268

Medicine, Surgery, Prothesis.

- 58 Ditten, H. S., Christiania.—Aperient tonic pills, tourist pharmacies. 272

Hardware, Edge Tools, Cutlery and Metallic Products.

- 58a Bennett, T.—Cutlery and carved goods. 281
 59 Michelsen, John B., Bergen.
 a Cutlery. 281
 b Brass goods. 283
 c Carvings in wood and walrus teeth. 405
 59a Smith, William.—Knives with carved handles. 281
 60 Blunck, C., Christiania.
 a Metal hollow ware, cast iron ware. 283
 b Pumps. 560
 c Fire engines. 564
 61 Krogstad Society, Drammen.—Nails and spikes, machine-made by hot and cold process. 284
 61a Opsahl, P. J., Christiania.—Locks. 284

(For anchors, chains, and stoves, see page 80.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fabrics of Vegetable, Animal, or Mineral Materials.

- 65 Fredriksvorn Rope Manufactory, Fredriksvorn.—Cordage. 287
 66 Kuhne, W., Christiania.—Basket ware. 289

Carriages, Vehicles, and Accessories.

- 67 Heffermehl, L., Drammen.
 a Carriages (kariols). 290
 b Racing sledge. 295
 68 Sorensen & Klovstad, Christiania.—Carriages (kariols). 290
 69 Christensen, Chr., Christiania.
 a Kariol. 292
 b Antique sleigh. 295
 70 Falck-Yster, Christiania.—Fisherman's ice sledge. 295

Motors, Power Generators, etc.

- 71 Gjerdrum, Otto, Christiania.—Model of self-acting smoke-consuming apparatus for boilers. 350
 72 Klem Hansen & Co., Trondhjem.—Belting. 353
 73 Roed Works, near Sandefjord.—Rotating steam-engine with boiler and feed-water heater. 554

Hydraulic and Pneumatic Apparatus.

- 74 Blunck, C., Christiania.
 a Pumps. 560
 b Fire-engines. 564

Aerial, Pneumatic, and Water Transportation.

- 75 Arentz, Hjalmar, Christiania.—Models and drawings of iron ships. 594
 76 Board of Commerce, Aalesund.—Models of fishing boats. 594
 77 Brandt, J., Christiania.—Drawings and models of sailing vessels. 594
 78 Brunchorst & Dekke, Bergen.—Models of sailing vessels. 594
 79 Gran, Jens, Bergen.—Models of sailing vessels. 594
 80 Hansen, Carl A., Porsgrund.—Models and drawings of sailing vessels. 594
 81 Museum of Bergen, Bergen.—Models of fishing boats. 594
 82 Naval Establishment of Carl Johansvern, Horten.—Models of boats. 594

ITALY.

(North of Nave, Columns 1 to 5.)

Chemicals.

Chemical Manufactures.

- 1 Mineralogical Society of Naples.—
Sulphurous products. 200
- 2 Salinella, Baron Michele, Nicosia,
Catania.—Rock salt. 200
- 3 Musumeci, Gulli Gaetano, Catania.
—Liquorice. 200
- 4 Giacomazzi, Favare Salvatore, Tra-
pani.—Sea salt. 200
- 5 Giacomazzi, Rocco, Trapani.—
Liquorice. 200
- 6 Martorana, Paladino S., Trapani.—
Sea salt. 200
- 7 Mazullo, Cav. Agostino, Mandanui,
Messina.—Rock salt. 200
- 8 Pirrone, Antonino, of Gaetano, Mes-
sina.—Liquorice. 200
- 9 Labonia, B. G., Naples.—Liquo-
rice. 200
- 10 Romano, Gaetano, Palermo.—
Salt. 200
- 11 Ferrino, Cesare, Turin.
a Nitrate. 200
b Colors in powder and paste. 202
- 12 Baroncelli, Baldassarre, Cinciano,
Sienna.—Bicarbonate of potassium and
sodium. 200
- 13 Borelli, Luigi, late Tommaso, Asti,
Alexandria.—Cream of tartar, acids. 200
- 14 Reimandi, Giuseppe, Acqui, Alex-
andria.—Cream of tartar, tartaric
acid. 200
- 15 Gentili, Grassini, late Giuseppe, Pa-
dua.—Cream of tartar. 200
- 16 Sbertoli, Giuseppe, late Domenico,
Genoa.—Carbonate of lead. 200
- 17 Candiani & Biffi, Milan.—Acids and
chemicals. 200
- 18 Emmanuele, Francesco, Catania.—
Cream of tartar. 200
- 19 Grimaldi, Giovanni, Paterno, Sicily.
—Extract of liquorice. 200
- 20 Pastore, Gio., late Filippo, Catania.
—Juice of liquorice. 200
- 21 Grasso, Giuseppe, Catania.—Juice
of liquorice. 200
- 22 Catanzaro, Giuseppe, Termini, Pa-
lermo.—Liquorice paste. 200
- 23 Lancia di Brojo, Duke Federigo,
Palermo.—Sea salt. 200
- 24 Fonzo, Domenico, Catania.—Cream
of tartar. 200
- 25 Di Mauro, Francisco, Catania.—
Cream of tartar. 200

- 26 Scuderi, Giuseppe, Catania.—Cream
of tartar, zamba. 200
- 27 Rampazzini, Frederico, Milan.—
Sulphur and chemicals. 200
- 28 Solinas, Arras Giuseppe, Sassari.—
Olive oil. 201
- 29 Oneto, Agostino, & Co., Sampier-
darena, Genoa.—Soap. 201
- 30 Agostini Della Seta, Count Alfredo,
Pisa.—Olive oil. 201
- 31 Cenami, Count Bartolomeo, Lucca.
—Olive oil. 201
- 32 Mingori, Vincenzo, Lucca.—Olive
oil. 201
- 33 Tellini, Vincenzo, Calci, Pisa.—Olive
oil. 201
- 34 Tellini, Dario, & Co., Cascina, Pisa.
—Olive oil soap. 201
- 35 Bonei, Casuccini Ottavio, Sienna.—
Olive oil. 201
- 36 Contucci, Eustachio, Montepu-
leiano, Sienna.—Olive oil. 201
- 37 Lanza Bros., Turin.—Stearine,
candles, soap. 201
- 38 Rinaldo, Raffaele, Salerno.—Olive
oil. 201
- 39 Guglielmini, Andrea, Salerno.—
Olive oil. 201
- 40 Virgili, Angelo, Vacone, Perugia.
—Olive oil. 201
- 41 Rosselli Del Turco, Pier Francesco,
Florence.—Olive oil. 201
- 42 Capponi, Conti Bros., Florence.—
Olive oil. 201
- 43 Alli Maccarani Claudio, Florence —
Olive oil and paste of Zanza. 201
- 44 Corsini, Prince Tommaso, Florence.
—Olive oil. 201
- 45 Merlini, Alfonso, & Enrico Bros.,
Terriciuola, Pisa.—Olive oil. 201
- 46 Farinola, M. Paolo, Florence.—
Olive oil. 201
- 47 Albergotti, Geo., & Agostino Bros.,
Arezzo.—Olive oil. 201
- 48 Rospigliosi, Prince Clemente, Lam-
povecchio, Florence.—Olive oil. 201
- 49 Chamber of Commerce & Arts,
Sienna.—Olive oil. 201
- 50 Saracini, Alessandro, Sienna.—
Olive oil. 201
- 51 Pucci, Sansedoni Aless., Sienna.—
Olive oil. 201
- 52 Ricasoli, Baron Bettino, Florence.—
Olive oil. 20

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemicals, Ceramics.

- 53 Botti, Alessandro, Chiavari, Genoa.—Olive oil. 201
- 54 Calamari, Pietro, Milan.—Soaps. 201
- 55 Gianoli Bros., Milan.—Soaps. 201
- 56 Giuffrida, Leotta Giovanni, Catania.—Oil of sweet almonds. 201
- 57 Merlo, Baron Vincenzo, Palermo.—Olive oil. 201
- 58 Sciacca della Scala, Baron, Palermo.—Olive oil. 201
- 59 Martines, Filippo, Palermo.—Olive oil. 201
- 60 Inguaggiato, Baron Croce, Palermo.—Olive oil. 201
- 61 Pacchiani, Eliseo, Passignano, Umbria.—Olive oil. 201
- 62 Rossi, Leopardi Cav. Cesare, Comiso, Syracuse.—Soaps. 201
- 63 Fazio, Domenico, Palermo.—Olive oil. 201
- 64 Galli, Cesare, Florence.—Olive oil. 201
- 65 Piacente, Francesco, Bari.—Olive oil. 201
- 66 Agrarian Committee for Thirty Exhibitors, Florence.—Olive oil. 201
- 67 Jatta, Antonio, Ruvo di Puglia.—Olive oil. 201
- 68 Chamber of Commerce & Arts, of Bari.—Olive oil. 201
- 69 Mazzullo, Cav. Luigi, Messina.—Olive oil. 201
- 70 Di Salvo, Salvatore, Messina.
a Olive oil. 201
b Essences. 230
- 71 Agrarian Committee of Chiavari.—Olive oil, soap. 201
- 72 Marzi Bros., Poggibonsi, Sienna.—Olive oil. 201
- 73 Russo, Calogero, Termini, Palermo.—Olive oil. 201
- 74 Favare, Marchese della, Palermo.—Olive oil. 201
- 75 Martillaro, Mar. Carlo, Palermo.—Olive oil. 201
- 76 Tucci-Savo Benedetto, Rome.—Olive oil. 201
- 77 Agosti Brothers, Bagnoria, Rome.—Olive oil. 201
- 78 Marini, Marq. Pietro, Rome.—Olive oil. 201
- 79 Rotali, Francesco, Rome.—Olive oil. 201
- 80 Isnardi, Pierre, Leghorn.—Olive oil. 201
- 81 Conti, E., & Sons, Leghorn.—Soaps. 201
- 82 Tarussi, Luigi, & Bros., Leghorn.—Olive oil. 201
- 83 Generois, Felice, & Sons, Naples.—Soaps. 201
- 84 Anselmi & Marassi, Naples.—Oils. 201
- 85 Rocco, Francesco, Catania.—Olive oil. 201
- 86 Rolando, Giacomo, Modena.—Ink. 202
- 87 Mora, Domenico, Turin.—Chestnut extract for dyeing. 202
- 88 Morandi, Pietro, Milan.—Ink. 202
- 89 Bassolini, Vincenzo, Milan.—Various colors. 202
- 90 Bonacina, Cesare, Milan.
a Varnishes, ink. 202
b Aromatic tooth paste. 203
- 91 Maranesi, Gaetano, & Masetti Bartolomeo, Bologna.—Ink. 202
- 92 Gnocchi, Giovanni, Milan.—Inks. 202
- 93 Scarselli, Benedetto, Rome.—Gru-ma, incrustation from casks. 202
- 94 Ghibellini Bros., S. Giovanni in Persiceto, Bologna.—Varnish. 202
- 95 Santi, Amantini, Adamo, Florence.—Perfumery. 203
- 96 Lardera, A., Milan.—Perfumery. 203
- 97 Cosentini & Caruso, S. Manno Marchesato, Calabria Citra.—Extract of liquorice. 203
- 98 Scocchiolini, Adone, Rome.—Pomatum. 203
- 99 Pateguazza Bros., N. & A., Rome.—Perfumery. 203
- 100 Bortolotti, Pietro, Bologna.—Felsina water (for the toilet). 203
- 101 Antonelli, Cav. Alessandro, Bologna.—Essence of lemon. 203
- 102 Alessi & Bonaventura, Messina.—Essences. 203
- 103 Alessi, Gaetano, Messina.—Essences. 203
- 104 Ottaviani Bros., Messina.—Essences. 203
- 105 Rizzuto Carmelo, Reggio-Calabria.—Essences. 203
- 106 De Sieto Bros., Reggio-Calabria.—Essences. 203
- 107 Siles, Ignazio, Reggio-Calabria.—Essences. 203
- 108 Lacoria, Felice, Reggio-Calabria.—Essences. 203
- 109 Enological & Agrarian Society of Acireale, Sicily.—Essence of lemon. 203
- 110 De Nava, Giuseppe di P., Reggio-Calabria.—Essences. 203
- 111 Mostardini, Adolfo, Florence.—Perfumery. 203
- 112 Melissari, Giuseppe, Florence.—Essences. 203
- 113 Pennise, Baron di Floristallo, Catania.—Boiled essence of lemon (agro). 203
- 114 Lavaggi, Francesco, Trofarello, Turin.—Matches. 204
- 115 Dellachi, Ambrogio, Moncalieri, Turin.—Wax and wood matches. 204
- Ceramics—Pottery, Porcelain, Glass, etc.
- 116 Trojani, G. Batta, Florence.—Bas-relief in baked clay. 204
- 117 Pagliacetti, Raffaello, Florence.—Statues in baked clay. 204
- 118 Stock Company for Manufacturing Bricks, Reggio, Emilia.—Bricks. 204

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-6.

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- 119 Tomei, Albiani Franco, Pietra-santa, Lucca.—Sample of pavements. 208
 120 Pellas, Giuseppe, Florence.—Galvano-plastic ornaments. 209
 121 Bertini, Emilio, Pisa.—Crockery. 210
 122 Miliani, Cesare, Fabriano, Ancona.—Crockery. 210
 123 Torelli, Jafet, Florence.—Crockery. 210
 124 Castellani, Torquato, Rome.—Crockery. 210
 125 Ferniani, Count Annibale, Faenza.—Crockery. 210
 126 Crockery Society of Farina, Faenza.—Artistic crockery. 210
 127 Benucci & Latti, Pesaro.—Majolica vases and dishes. 211

Furniture and Objects of General Use in Construction and in Dwellings.

- 128 Ammirati, Domenico, Palermo.—Chairs. 217
 129 Lopes, Salvatore, Palermo.—Stone tables. 217
 130 Coco, Salvatore, Palermo.—Ebony furniture. 217
 131 Cavallaro, L. & G., Palermo.—Metallic beds. 217
 132 Catalano, Antonio, Palermo.—Furniture. 217
 133 Martinotti, Luigi, Turin.—Carved furniture. 217
 134 Buzzi, Giberto Francesco, Varese, Lombardo.—Marble furniture. 217
 135 Lancetti, Federico, Perugia.—Furniture. 217
 136 Elli, Luigi, Milan.—Seats for theatre. 217
 137 Fava, Avo, Niccolo, Florence.—Carved walnut furniture. 217
 138 Castelvvedere, Luigi, Brescia.—Metal candelabra and chased dish. 218
 139 Rolandi, G. Batto, Milan.—Crystals and glasses. 219
 140 Grattarola, Cesare, Bologna.—Picture frames of other exhibitors' pictures. (*In Art Gallery.*) 220
 141 Pontif, Oleographic Society, Bologna.—Frames. 220
 142 Saretteire, Giuseppe, Palermo.—Lamps. 223
 143 Menici, Angiolo, Leghorn.—Shower bath. 226
 144 Della, Casa Nicola, Baveno, Novara.—Granite cornice. 227
 145 Bianchi & Molinari, Milan.—Wooden floor. 227
 146 Vajani, Pietro, Milan.—Window blinds, curtains, etc. 227
 147 Rizzi, Augusto, Milan.—Persian window blinds. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 148 Vecchietti, Cesare, Florence.—Green-weed (ginestro) products. 229
 149 Polidori, Count Augusto, Anghiari, Arezzo.—Prepared green-weed (ginestro). 229

- 150 Scurati, Manzoni de G., Biella, Novara.—Skein of cotton. 230
 151 Assetto di Graziani Bros., Chieri, Turin.—Cotton goods. 230
 152 Madini, Augusto, & Co., Bologna.—Seamless bags. 230
 153 Gentiluomi, L. V., & Co., Pisa.—Colored cotton goods. 231
 154 Meda, Bernardo, Monza, Milan.—Colored calico. 232
 155 Alessio Bros., Milan.—Red calico. 232
 156 Special Committee of Salerno.—Linen goods. 233
 157 Remaggi Bros., Navacchio, Pisa.—Linen goods. 233

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- 158 Caldara, Salvatore, Palermo.—Cloths. 235
 159 Mangeri, Antonino, Messina.—Cloths. 235
 160 Barbarulo Bros., Naples.—Cloths. 235
 161 Radieri Bros., Gandino, Bergamo.—Felted flannel and cloth. 235
 162 Barbarulo, Antonio, Peluzzano, Salerno.—Cloths. 235
 163 Correction Department of Saliceto, Modena.—Cloths. 235
 164 Assetto di Graziani Bros., Chieri, Turin.—Blankets. 237
 165 Chapelle & Co., Turin.—Woolen blankets. 237
 166 Bass, Abrate, & Co., Turin.—Blankets. 237
 167 Woolen Manufactory of Borgo Sesia, Turin.—Worsted wool. 238
 168 Bozzalla, Gio, & Son, Biella, Novara.—Woolen goods. 238
 169 Bozzalla, Antonio, & Brother, Coggiola, Novara.—Woolen goods. 238

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- 170 Keller, Alberto, Milan.
 a Raw silk. 242
 b Woven silk. 245
 171 Chiericoni, Ugolino, Messina.—Cocoons. 242
 172 Giannotti, Giuseppe, Barga (Luc. ca).
 a Raw silk. 242
 b Spun silk. 244
 173 Diena, M. G., Modena.—Raw silk. 242
 174 Sinigaglia, Salomon, Heir of, Latte, Turin.
 a Raw silk. 242
 b Woven silk. 245
 175 Franzl Bros., Alzano Maggiore, Bergamo.
 a Raw silk. 242
 b Woven silk. 245
 176 Dalla Pozza, Filippo, Vicenza.
 a Raw silk. 242
 b Woven silk. 245
 177 Frizzoni, Antonio F., Bergamo.
 a Raw silk. 242
 b Woven silk. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk, Clothing, Jewelry, Stationery.

- 178 Meyer & Co., Milan.
a Raw silk. 242
b Spun silk. 244
- 179 Sciacca della Scala, Baron, Palermo.—Silk. 245
- 180 De Silvestri, Salvatore, Rome.—Silk goods. 245
- 181 Cagliani, Leopoldo, Milan.—Silk velvets. 247
- Clothing, Jewelry and Ornaments; Traveling Equipments.**
- 182 Morandi, G. Montepulciano, Siena.—Dress for lady. 250
- 183 Incerti Anselmo, Modena.—Knit goods. 250
- 184 Comellini & Buratti, Bologna.—Corsets. 250
- 185 Marchesini, Pietro, Bologna.—Straw hats. 251
- 186 Ricci, Luigi, & Sons, Florence.—Straw hats. 251
- 187 Duranti, Agostino, Florence.—Straw hats. 251
- 188 Angelucci, Gerolamo, Ancona.—Shoes. 251
- 189 Lodi, G. Batta, Palermo.—Gloves. 251
- 190 Di Rosalia, Antonino, Palermo.—Shoes. 251
- 191 Vinci, Melchiorre, Palermo.—Shoes. 251
- 192 Petroli, Pietro, Pallaanza.—Shoes. 251
- 193 Shoemakers' Co-operative Society, Bologna.—Shoes. 251
- 194 Baccilieri, Lorenzo, Bologna.—Gloves. 251
- 195 Bossi, Eduardo, Naples.—Gloves. 251
- 196 De Notaris, Sigismundo, Naples.—Shoes. 251
- 197 Calise, Tommaso, Ischia Island, Naples.—Ladies' straw hats. 251
- 198 Rumieri, Gabriele, Naples.—Silk and felt hats. 251
- 199 Casella, Giuseppe, Salerno.—Shoes. 251
- 200 Moiraghi, Antonio, Turin.—Shoes. 251
- 201 Bruzzesi, Giacinto, Milan.—Shoes. 251
- 202 Scarselli, Benedetto, Rome.—Straw hats and braided straw. 251
- 203 Taddei, Gaetano, Florence.—Straw hats and braided straw. 251
- 204 Straw Hat Stock Co., Pianoro, Bologna.—Straw hats and braided straw. 251
- 205 Santini Bros., Florence.—Straw hats and braided straw. 251
- 206 Working Men's Benevolent Association of Palermo.—Straw hats and braided straw. 251
- 207 Angeli Candido, Reggio, Emilia.—Hats and braided straw. 251
- 208 Kubli, Gio Giacomo, Florence.—Straw hats and braided straw. 251
- 209 Romani, Eugenio, & Wife, Milan.—Embroidered pictures. 252
- 210 Gerosa, Adele Educanda, Milan.—Embroidered pictures and handkerchief. 252
- 211 Stock Co. for Manufacturing Laces, Venice.—Laces, old and new styles. 252
- 212 Bon Regina, Como.—Laces. 252
- 213 Gioiuzza, Giuseppe, Naples.—Jewelry and coral. 253
- 214 Melillo, Giacinto, Naples.—Jewelry and coral. 253
- 215 Francati & Santamaria, Rome.—Jewelry. 253
- 216 Geraldini, Ettore, Rome.—Gold and silver jewelry. 253
- 217 Bellezza, Niccolo Aless, Rome.—Jewelry. 253
- 218 Accarisi, Giuseppe, Florence.—Roman jewelry. 253
- 219 Jacobini, Raffe, & Giobbe, Pio, Rome.—Old precious stones. 253
- 220 Ponti, Rovera, & Co., Piacenza.—Buttons. 254
- 221 Olivieri, Luigi, Venice.—Fancy articles. 254
- 222 Forte, Emilio, Genoa.—Silver filigree work. 254
- 223 Salvo, C., & Sons, Genoa.—Objects in filigree and gold. 254
- 224 Righini Bros., Turin.—Umbrella and parasol. 254
- 225 Labriola, Luigi, Naples.—Tortoiseshell work. 254
- 226 Castellani, Alessandro, Rome.—Gold and silver articles. 254
- 227 Brusa, G. Batta, Venice.—Album. 255
- 228 Rossetti, Cav. Giacomo, Brescia.—Album, with photographs. 255
- 229 Cavalieri, Avo. Michele, Milan.—Album and miniatures. 255
- 230 Leoni, Angelo, Catania.—Sicilian costumes. 257
- Paper, Blank Books, Stationery.**
- 231 Grassi, Francesco, Bologna.—Vertical letter press. 258
- 232 Cartiera Italiana, Turin.—Paper and envelopes. 259
- 233 Agosti, Agnes, Rome.—Paper embroderies. 259
- 234 Cattaneo, Alessandro & Bro., Bergamo.—Common paper. 260
- 235 Vallini, Natale, Bologna.—Paper. 260
- 236 Miliani, Pietro, Falciano, Marche.—Various kinds of paper. 260
- 237 Fornari, Antonio G. B., Fabriano, Ancona.
a Papers. 260
b Pasteboard. 261
- 238 Migliaccio, Raffaele, Salerno.—Paper. 260
- 239 Giordano, Scipione, Turin.—Blank form of contract for nurses. 261
- 240 Cassinara, Eugenio, Pavia.—Billheads. 261
- 241 Fagioli, Gaetano, Piacenza.—Paper boxes. 261
- 242 Mottura, Ing. Oreste, Piacenza.—Bricks of pasteboard. 261

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28

Weapons, Medical Appliances, Hardware, Vehicles, Sculpture.

Weapons, etc.

- 243 Comminassi Bros., Brescia.—
Needle-gun barrels. 265
244 Botti, Pietro, Brescia.—Gun. 265
245 Corica, Agostino, Messina.—
Shot. 265

Medicine, Surgery, Prothesis.

- 246 Decol, Maria, Bologna.—Decotto
(a medicine). 272
247 Garau, Salvatore, Milan.—Tama-
rind powder; extract to prevent sea sick-
ness. 227
248 Morreale, Ettore, Palermo.—Medi-
cinal liquors. 272
249 Margani-Valenti, Gaetano, Nisce-
mi, Sicily.—Medicines. 272
250 Pagliaro, Domenico, St. Stefano
Camostra, Palermo.—Medicines. 272
251 Pagliaro, Andrea, Mistretta, Mes-
sina.—Medicinal gelatines. 272
252 Valentini, Gottardo, Milan.—
Medicines. 272
253 Arrosto, Gioacchino, Messina.—
Citrates and medicines. 272
254 Spadaro, Grassi P., Catania.—
Medicinal citrate. 272
255 Ponzone, Luigi, Milan.—Hygienic
liquors and medicine. 272
256 Menici, Angiolo, Leghorn.—Appli-
ance for raising the sick. 276
257 Bernabei, Alessandro, Rome.—
Tubes and metallic syringes. 276
258 Papini, Leopoldo, Florence.—
Hernial truss. 276
259 Gramignani, Leopoldo, Ancona.—
Dental prothesis. 277
260 Noel-Winderling Bros., Milan.—
Dental anatomy. 277
261 Testi, Ulisse, Bologna.—Dental
machines. 277
262 Sirletti, Francesco, Rome.—Sets
of teeth. 277

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 263 Guelpa-Piazza Bros., Biella,
Novara.—Gimlets. 280
264 Giulivo, B., & Co., Turin.—Iron
and tin knives, forks, and spoons. 281
265 Ferrino, Cesare, Turin.—Sand
linen and sand paper. 282
266 Bonini, Emilio, Pignone, Florence.
—Articles in zinc. 283
267 De Poli Bros., Vittorio, Treviso.—
Bronze church bell. 283

- 268 Zaffari, Benedetto, Sienna.—Iron
work. 283
269 Parise, Achille, Sons, Naples.—
Mechanical lock. 284
270 Cane, Geremia, Bologna.—Tools
for umbrellas. 284
271 Namei, Giovanni, Florence.—
Turned metallic articles. 284
272 Olivieri, Luigi, Venice.—Hard-
ware. 284
273 Escoffier, Giuseppe Gio., Florence.
—Mechanical articles. 284

Fabrics of Vegetable, Animal, or
Mineral Materials.

- 274 Giacomini, Luigi, & Co., Treviso.—
Brushes. 286
275 Bargioni, Ferdinando, Florence.—
Ropes of rush. 287
276 Chamber of Commerce of Syra-
cuse.—Ropes. 287
277 Rosso, Leopardo Cav. Cesare,
Comiso, Syracuse.—Ropes. 287
278 Vincenzi, Paolo, Carpi, Modena.—
Corks. 289
279 Marchini, Cesare, Fiesole, Flor-
ence.—Straw works. 289

Carriages, Vehicles, and Accessories.

- 280 Sarettere, Giuseppe, Palermo.—
Lamps for carriages. 292
281 Locati, Cav. Alessandro, Turin.—
Carriages. (*In Annex.*) 292
282 Mainetti, Francesco, Milan.—Car-
riage (landau). (*In Annex.*) 292

Sculpture.

- 283 Bazzantie, Figlio, Florence.—Cupid
and Psyche (group). 400
284 Porcinai, Antonio, Florence.
a Surprised (bust). 400
b Venus of Canova (statue). 400
285 Torelli, Lot, Florence.—David, by
Michael Angelo (copy). 400
286 Garofoli, Oreste, Rome.
a Trasteverina (Roman costume). 400
b After the Theatre. 400
c Ciociara (Roman costume). 400
d Genzanes. 400
287 Ricci, Paolo, Florence.—Dante
(statuette). 400

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

EGYPT.

(South of South Avenue, Columns 12 to 15.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

**Minerals, Ores, Building Stones,
Mining Products.**

- 1 National Museum.**
a Rough gold-dust, petrified wood. 100
b Rough, hewn, and polished marbles, alabaster, and limestones. 102
c Crude lime rock, cement, burned lime, and plaster. 103
d Clays and materials for manufacturing porcelain and falence. 104
e Sand. 106
f Soil and water. 107

Metallurgical Products.

- 2 National Museum.**
a Solid rough gold pieces. 110
b Iron. 111

Chemical Manufactures.

- 3 Laboratory of the Government.**
a Chemicals of all kinds and pharmaceutical preparations. 200
b Prepared oils, solid and liquid. 201
c Flavoring extracts, solid and liquid. 203

Ceramics—Pottery, Porcelain, etc.

- 4 National Museum.**
a Bricks from Lower Egypt. 206
b Porcelain tiles. 208
c Egyptian earthenware, from Upper Egypt. 210
5 Brugsch Bey, Cairo.
a Majolica ware in different designs. 211
b Porcelain of all kinds. 213

**Furniture, and Objects of General Use
in Construction and in Dwellings.**

- 6 Parvis, Mr., Cairo.—Oriental**
drawing-room furniture. 217
7 National Museum.
a Table furniture of porcelain, solid gold and silver ware, coffee sets, and vessels of brass. 218
b Utensils for kitchen, and tinware. 224

**Yarns and Woven Goods of Vegetable
or Mineral Materials.**

- 8 National Museum.**
a Coarse fabrics of rattan, bark, palm-leaf, grass, and rushes. 229
b Cotton fabrics, unbleached, bleached, and dyed. 231

- c* Linen fabrics, uncolored and dyed, and linen canvas and duck for awnings and tents. 231

**Woven and Felted Goods of Wool and
Mixtures of Wool.**

- 9 National Museum.**
a Fabrics of wool, fancy cassimeres. 235
b Flannels. 236
c Robes. 237
10 National Museum.—Collection of
Brussels carpet, Melton, and tapestry, from wool and camel's hair. 239

**Silk and Silk Fabrics, and Mixtures
in which Silk is the predominating
material.**

- 11 Tramontino, Mr., Cairo.—Cocoons**
and raw silk. 242
12 National Museum.
a Twisted silk in spools and skeins. 243
b Woven silk, lute-strings, satins, and foulards. 245
c Woven figured silk goods. 246
d Fancy silk and velvet ribbons. 248

**Clothing, Jewelry and Ornaments;
Traveling Equipments.**

- 13 National Museum.**
a Dress goods for men's and women's wear, with gold and silver trimmings. 250
b Hats, and boots; women's shoes embroidered in velvet, silk, gold, and silver. 251
c Silk dress trimmings and embroideries, woven with gold and silver. 252
d Turquoises, jewelry, and ornaments worn upon the person. 253
e Fancy articles, dress adornments, fans, walking-canes, sunshades, and pipes of all descriptions, with gold, silver, and silk woven ornaments, ostrich and marabout feathers. 254
f Fancy leather work. 255
g Historical collection of the national costumes from Abyssinia and the Soudan. 257

Paper, Blank Books, and Stationery.

- 14 National Museum.**
a Stationers' articles of the Orient. 258
b Writing paper. 259

**Military and Naval Armaments, Ord-
nance, Firearms, and Hunting Ap-
paratus.**

- 15 National Museum.—Swords, spears,**
and dirks. 261

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-18.

Manufactures, Education and Science, Art, Agriculture.

- 16 Cassegrain, F. P., of Cairo.—Hunting firearms of a special pattern. 269

Medicine, Surgery, and Prothesis.

- 17 National Museum.—Medicinal plants. 272
 18 National Museum of Egypt, Mr. Zucchinietti, of Cairo.—Veterinary instruments. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 19 Mechanic Institute of Boolak.—Iron hardware for different mechanical purposes. 284

Carriages, Vehicles, and Accessories.

- 20 National Museum of Egypt, Mr. Zucchinietti, of Cairo.—Furniture for horses and mules, harness and saddlery, ornamental mule blankets, and silk woven saddle blankets. 296

Educational Systems, Methods, and Libraries.

- 21 Ministry of Public Instruction.—Maps, charts, penmanship, drawings of pupils' work and course of study in water colors, from the public schools and academies. 300
 22 National Museum.
 a Map of Egypt and the new annexed provinces made by Mr. Friederichsen. 300
 b Mechanical instruments executed by scholars at the Polytechnic school. 302
 c Text-books and apparatus. 306
 23 Onsy, Mr., of Cairo.—Types and books for the education of the blind. 303
 24 Ministry of Public Instruction.
 a College and school statistics and educational reports of Egypt. 304
 b Statistical reports. 305
 25 Mourès & Co., Cairo, Ministry of Public Instruction.—Printed works, school and text books, and dictionary, from the public schools of Egypt; literature in the Arabic language, newspapers, and periodical literature. 306

Institutions and Organizations.

- 26 National Museum.—Ethnographical collection and publications. 312

Scientific and Philosophical Instruments and Methods.

- 27 National Museum.
 a Egyptian weights and measures. 322
 b Musical instruments from Egypt and the provinces of Soudan. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 28 National Museum.—Maps of railways, roads, telegraphs, and postal service; topographical maps and charts. 335

Physical, Social, and Moral Condition of Man.

- 29 National Museum.—Collection of Egyptian gold, silver, and copper coins. 344

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Sculpture.

- 30 National Museum.—Plaster casts from Egyptian monuments. 400
 31 National Museum.
 a Stones with ancient Arabic inscriptions. 401
 b Hammered relief works in copper, and collection of plates, trays, and vases of the modern time of Egypt. 403
 32 Vegis, Mr., Cairo.—Repoussé and rehaussé work in copper and iron of the ancient Arabic time. 403
 33 National Museum.—Specimens of "Mousharabie" window patterns in wood and ivory, engraved wood. 405

Painting.

- 34 National Museum.
 a View of Cairo and other water-color paintings, executed by Mr. Weidenbach, Berlin. 411
 b Painted water-bottles. 413

Engraving and Lithography.

- 35 Ravon, H., Staff-officer National Museum.—Drawing in ink of the citadel of Cairo, list of the names of the caliphs and sultans who have reigned in Egypt, from Omar to Ismail Pacha, Khedive of Egypt, list of the names of Pharaohs. 420
 35a Penasson, A., Alexandria.—Samples of lithographic printing. 423

Photography.

- 36 National Museum.—Collection of photographs, views of public works, costumes, scenery, panorama, and a collection of albums. 430

Industrial and Architectural Designs, Models, and Decorations.

- 37 National Museum.—Collection of Arabic ornaments (plaster and zinc casts, painted and gilt), from time of the caliphs, made by Schmo-ranz. 443

Decorations with Ceramic and Vitreous Materials, Mosaic and Inlaid Work.

- 38 National Museum.
 a Ancient glass lamps from the mosques. 451
 b Woodwork inlaid with ivory; ancient door from the sanctuary of a mosque, carved and inlaid in ivory and ebony. 452

Arboriculture and Forest Products.

- 39 National Museum.
 a Collection of woods from Egypt and the annexed provinces, cotton tree. 600
 b Materials for dyeing and other industrial purposes. 602
 40 National Museum & Mr. Heller.—Samples of gums. 603

Agricultural Products.

- 41 National Museum.
 a Cereals. 620
 b Legumes—beans, lentils, etc. 621
 c Tuberculous alimentaries. 622
 d Tobacco. 623
 e Cotton seeds. 624

Animal and Vegetable Products, Textile Substances.

Water Animals, Fish Culture and Apparatus.

42 National Museum.

a Crocodiles.

640

b Pearls.

645

Animal and Vegetable Products.

43 National Museum.

a Samples of butter.

651

b Samples of grease, colored hides, skins, collection of hippopotamus and rhinoceros horns, tusks of elephants and hippopotami.

652

c Ostrich eggs and feathers.

653

d Edible pulps, seeds, fruits, pastes, and confections, dried fruits and vegetables.

656

e Flour and rice.

657

f Starches.

658

g Sacchariculture.

659

h Wines, alcohol, rum, and vinegar.

660

i Biscuits.

661

Textile Substances of Vegetable or Animal Origin.

44 Estate of the Khedive.—Collection of over 2000 cotton samples, representing the crops of eight years, with classification and price of sale in Egypt and England.

665

45 National Museum.—Textile fibres, raw and manufactured, cords and ropes, flax.

666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TUNIS.

(South of South Avenue, Columns 10 to 14.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art.

- | | |
|---|---|
| <p>Minerals, Ores, Stones, Mining Products.</p> <p>1 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Minerals and ores of Tunis. 100</p> <p>Chemical Manufactures.</p> <p>2 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Essences and flavoring extracts. 203</p> <p>Ceramics—Pottery, Porcelain, Glass, etc.</p> <p>3 Valensi, M., Tunis and Paris.—Pottery. 206</p> <p>3a His Highness Sidi Mohammed Essadok, Bey of Tunis. 206</p> <p>a Pottery. 210</p> <p>b Earthenware. 210</p> <p>Furniture and Objects of General Use in Construction and in Dwellings.</p> <p>4 Valensi, M., Tunis and Paris. 217</p> <p>a Inlaid furniture. 220</p> <p>b Brackets. 220</p> <p>5 His Highness Sidi Mohammed Essadok, Bey of Tunis. 217</p> <p>a Inlaid and household furniture. 220</p> <p>b Gilt brackets. 220</p> <p>Woven and Felted Goods of Wool and Mixtures of Wool.</p> <p>6 His Highness Sidi Mohammed Essadok, Bey of Tunis. 237</p> <p>a Woolen blankets, shawls. 237</p> <p>b Carpets, rugs. 239</p> <p>7 Valensi, M., Tunis and Paris. 237</p> <p>a Shawls. 237</p> <p>b Carpets and rugs. 239</p> <p>Silk and Silk Fabrics, and Mixtures in which Silk is the predominating material.</p> <p>8 His Highness Sidi Mohammed Essadok, Bey of Tunis. 245</p> <p>a Woven silks. 245</p> <p>b Hangings. 246</p> | <p>9 Valensi, M., Tunis and Paris. 245</p> <p>a Woven silks. 245</p> <p>b Hangings. 246</p> <p>Clothing, Jewelry, and Ornaments; Traveling Equipments.</p> <p>10 His Highness Sidi Mohammed Essadok, Bey of Tunis. 250</p> <p>a Burnous. 250</p> <p>b Embroideries. 252</p> <p>c Jewelry. 253</p> <p>d National costumes. 257</p> <p>11 Valensi, M., Tunis and Paris. 253</p> <p>a Jewelry. 253</p> <p>b Oriental manufactures generally. 254</p> <p>c Tunisian costumes. 257</p> <p>Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.</p> <p>12 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Ancient and modern arms. 265</p> <p>13 Valensi, M., Tunis and Paris.—Arms. 265</p> <p>Carriages, Vehicles, and Accessories.</p> <p>14 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Saddlery; furniture and accoutrements for horses, mules, and camels; ornamental horse and mule saddles and bridles. 266</p> <p>Scientific and Philosophical Instruments and Methods.</p> <p>15 Valensi, M., Tunis and Paris.—Musical instruments. 327</p> <p>Ceramic Decorations, Mosaics, etc.</p> <p>16 Ancient mosaics from Carthage. 450</p> <p>Physical, Social, and Moral Condition of Man.</p> <p>17 His Highness Sidi Mohammed Essadok, Bey of Tunis.—Two Arab tents, exhibiting the domestic life and customs of Arab sheiks and Bedouins; farming implements of Arabs. (In Park.) 342</p> |
|---|---|
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ORANGE FREE STATE.

(South of South Avenue, Columns 2 to 5.)

COLLECTIVE GOVERNMENT EXHIBIT.

Minerals, Clothing, Animal and Vegetable Products.

<i>a</i> Diamonds in the rough, from the diamond fields of the Orange Free State.	100	<i>q</i> Cream of tartar fruit.	611
<i>b</i> Diamondiferous soil, with a diamond in it.	100	<i>r</i> Wheat, mealies, and Kaffir corn.	620
<i>c</i> Copper and iron ore, chlorastrolite, and magnesita.	100	<i>s</i> Stuffed birds.	635
<i>d</i> Coal.	101	<i>t</i> Butterflies and other insects.	638
<i>e</i> Pebbles accompanying the diamond.	102	<i>u</i> Tusks of ivory.	652
<i>f</i> Kaolin.	104	<i>v</i> Gemsbuck, roorbuck, rietbuck, and hartebeeste horns.	652
<i>g</i> Springbuck mats.	239	<i>w</i> Koodoo cow hides.	652
<i>h</i> Angora, blesbuck, and jackal karosses.	239	<i>x</i> Blesbuck skins.	652
<i>i</i> Boots of native manufacture.	251	<i>y</i> Hartebeeste and blesbuck skins, tanned.	652
<i>j</i> Pipes of native manufacture.	254	<i>z</i> Shambucks, long and short.	652
<i>k</i> Baskets of native manufacture.	289	<i>aa</i> Rhinoceros hide flexible rods, reins, thongs, and girdles.	652
<i>l</i> Harnesses and whips.	296	<i>bb</i> Whips of giraffe hide.	652
<i>m</i> Figures in wood, cut with a pen-knife.	405	<i>cc</i> Ostrich feathers and eggs.	653
<i>n</i> Blue gum, olive, and thorn woods.	600	<i>dd</i> Bird plumage, natural.	653
<i>o</i> Petrified wood.	600	<i>ee</i> Dried fruit.	656
<i>p</i> Sumach.	602	<i>ff</i> Mealie meal.	657
		<i>gg</i> Wool, washed and unwashed.	667
		<i>hh</i> Mohair of Angora goat.	669
		<i>ii</i> Model of transport wagon.	682

GRAND DUCHY OF LUXEMBURG.

COLLECTIVE EXHIBIT.

Ceramics, Clothing, Animal and Vegetable Products.

Ceramics—Pottery, Porcelain, Glass, etc.

- 1 Utachneider & Jaunez, Wasserbillig.—Cement products of Wasserbillig. 206

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 2 Charles, Auguste, & Co., Bonnevoie, near Luxembourg.—Kid gloves. 251
3 Mayer, Gabriel, Luxemburg.—Kid gloves. 251

- 4 Boot Manufactory of Luxemburg.—Boots and shoes. 251

Animal and Vegetable Products.

- 4a Charles, Auguste, & Co., Bonnevoie, near Luxembourg.—Tanned and dyed kid skins. 652
5 Michaelis, Frederic, Luxemburg.—Concentrated vinegar. 660
6 Pauly, Bouthon, & Co., Distillery Vinegar Manufactory.—Concentrated vinegar. 660
7 Eichhorn, Gustav, Wormeldang.—Moselle wines. 662

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

CHINA.

(South of South Avenue, Columns 5 to 11.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Stone, Mining Products.

- 1 Harman, G., Swatow.—Petrification. 100
 2 Imperial Maritime Customs.
 a Coal. 101
 b Granite stones. 102
 c Borax. 104
 d Gypsum. 107

Metallurgical Products.

- 3 Imperial Maritime Customs.
 a Silver leaf and imitation of gold leaf. 110
 b Steel. 111
 c Tin foil. 113

Chemical Manufactures.

- 4 Imperial Maritime Customs.
 a Various seed, vegetable, and wood oils. 201
 b Varnish, indigo, and sundry other dyes and colors. 202
 c Sauce. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 5 Imperial Maritime Customs.
 a Bricks. 206
 b Roof tiles. 208
 c Collection of earthenware. 210
 6 Tack Loong, Canton.
 a Earthenware ornaments, figures, etc. 210
 b Porcelain vases, flower-pots, tea set, cigar holders, etc. 213
 7 Bean & Jardine, Kiukiang.—Porcelain vases, flower-pots, cups, etc. 213
 8 Fow Loong, Canton.—Porcelain vases, dinner service, etc. 213
 9 H8 Kan Cheu, Shanghai.—Collection of old china. 213
 10 Hu Kwang, Yung Hang Chow.—Collection of old china porcelain. 213
 11 Imperial Maritime Customs, Canton.—Porcelain vases, dinner, dessert, tea, and toilet sets, flower-pots, candle-holders, bowls, cuspadors, etc. 213
 12 Imperial Maritime Customs, Kiukiang.—Porcelain vases, cups, and bowls; plates, teapots, etc. 213
 13 Imperial Maritime Customs, Shanghai.—Collection of old china. 213
 14 Kopsch, H., Kiukiang.—Porcelain vases, cups, bottles, cups and plates, dessert dishes, goblets, etc. 213
 15 Lovatt, W. N., Kiukiang.—Porcelain vases, flower-pots, garden seats, teacups, dessert dishes, goblets, etc. 213

- 16 Moore, C. F., Kiukiang.—Porcelain teapots, bottles, flower-pots, ornaments, etc. 213
 17 Rose, S. C., Kiukiang.—Porcelain vases, flower-pots, jars, plates, dishes, cups, dinner sets, etc. 213
 18 Tong Chock-hing, Kiukiang.—Porcelain vases, ornaments, dessert service, etc. 213
 19 Toin Peh Mei, Kiukiang.—Porcelain vases, teacups, fruit stands, dinner sets, and screen. 213
 20 Wadman, E., Ningpo.—Collection of old china vases. 213

Furniture and Objects of General Use in Construction and in Dwellings.

- 21 Fow Loong, Canton.—Blackwood furniture—tables, sofas, chairs, screens, cabinets, etc. 217
 22 Imperial Maritime Customs, Canton.
 a Blackwood, bamboo, rattan, and lacquered furniture. 217
 b Rattan cradle, and children's chairs. 221
 c Different kinds of lanterns. 223
 23 Kopsch, H., Kiukiang.—Screens. 217
 24 Lien Shing, Canton.—Lacquered furniture, chairs, and blackwood screens. 217
 25 Sung Sing Kung, Ningpo.
 a Carved furniture—beds, chairs, tables, bookcases, cabinets, etc. 217
 b Carved picture and photograph frames. 220
 26 Imperial Maritime Customs, Ningpo.
 a Teakettles and dishes. 224
 b Washbasins. 226

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 27 Fergusson & Co., Chefoo.—Samples of straw braid. 229
 28 Imperial Maritime Customs.
 a Samples of grass cloth, rattan and coir matting, etc. 229
 b Plain cotton fabrics. 230
 c Printed cotton fabrics. 232
 d Hemp cloth. 233

Woven and Felted Goods of Wool, etc.

- 29 Imperial Maritime Customs.—Felt rugs. 239

Silk and Silk Fabrics.

- 30 Fergusson & Co., Chefoo.
 a Raw silk. 240
 b Plain woven silks. 241

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Manufactures, Education and Science, Art, Agriculture.

- 31 Imperial Maritime Customs, Shanghai.—Collection of reeled and re-reeled silks. 242
- 32 Hō Kan-cheu, Shanghai.—Plain woven silks. 245
- 33 Hu Kwang-Yung, Hangchow.—Plain woven silks. 245
- 34 Imperial Maritime Customs. 245
a Plain woven silks. 245
b Figured silk piece goods. 246
c Embroidered silk scarfs. 247
- 35 Fergusson & Co., Chefoo.—Figured silk piece goods. 246
- 36 Hō Kan-cheu, Shanghai.—Figured silk piece goods. 246
- 37 Hu Kwang-Yung, Hangchow.—Figured silk piece goods. 246
- 38 Wu, Shanghai.—Soochow gauzes. 247

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 39 Imperial Maritime Customs. 250
a Stockings. 250
b Shoes, hats, caps, etc. 251
c Fans, small articles of dress, pipes, smoking apparatus, etc. 254
- 40 Imperial Maritime Customs, Canton.—Collection of silk embroidered goods, shawls, slippers, and caps, bed and cushion covers, cloth, etc. 252
- 41 Sisters of Charity, Ningpo.—Embroideries. 252
- 42 Sung Sing Kung, Ningpo.—Satin embroideries. 252
- 43 Lien Shing, Canton. 253
a Jewelry. 253
b Fans and hand screens. 254
- 44 Moore, C. F., Kiukiang.—Jewelry and ornaments. 253
- 45 Ho A Ching, Canton.—Carved fans. 254
- 46 Imperial Maritime Customs, Niuchwang.—Collection of furs and skins. 255
- 47 Imperial Maritime Customs, Shanghai.—Fancy leather work, trunks, and toilet boxes. 255

Paper, Blank Books, and Stationery.

- 48 Imperial Maritime Customs. 258
a Paper, knives, ink, pens, etc. 258
b Writing paper. 259
c Oiled and pith paper. 260
d Various colored paper. 264
- 49 Tong Chou Hing, Kiukiang.—Ink. 259

Medicine, Surgery, Prosthesis.

- 50 Imperial Maritime Customs.—Collection of medicines, official and unofficial. 272

Hardware, Edge Tools, Cutlery, Metallic Products.

- 51 Ho Kan Cheu, Shanghai.—Collection of old bronzes, vases, urns, etc. 283
- 52 Hu Kwang-Yung, Hangchow.—Collection of old bronzes, vases, urns, etc. 283
- 53 Imperial Maritime Customs.—Pewter ware, tea canisters, cups, pots, mugs, boxes, candlesticks, etc. 283

- 54 Imperial Maritime Customs, Shanghai.—Collection of old bronzes, vases, urns, etc. 283
- 55 Wadman, E., Ningpo.—Collection of old bronzes, vases, urns, etc. 283

Fabrics of Vegetable, Animal, or Mineral Materials.

- 56 Imperial Maritime Customs. 287
a Cord, rope, twine, etc. 287
b Lacquer, rattan, and bamboo ware. 289
- 57 Ho A Ching, Canton.—Lacquer ware. 289
- 58 Lien Shing, Canton.—Lacquer and sandalwood ware. 289

Scientific and Philosophical Instruments and Methods.

- 59 Imperial Maritime Customs.—Collection of musical instruments. 327

Physical, Social, and Moral Condition of Man.

- 60 The Protestant Missionaries in China.—Publications. 348

Sculpture.

- 61 Grimm, B., Shanghai.—Collection of coins and medals. 401
- 62 Ho A Ching, Canton.—Carved ivory ware. 405
- 63 Imperial Maritime Customs, Canton.—Carved ivory and tortoise shell ware. 405
- 64 Lien Shing, Canton.—Carved ivory ware, etc. 405
- 65 Moore, C. F., Kiukiang.—Carved figure. 405

Paintings.

- 66 Hippisley, A. E., Shanghai.—Water-color paintings on silk, for screens, painted by Wang Kieu-ting. 411
- 67 Imperial Maritime Customs.—Collection of ancient water-color paintings on silk and paper; pictures on pith paper. 411

Ceramic Decorations, Mosaics, etc.

- 68 Vo Chon, Canton. 454
a Two cloisonné brass incense burners. 454
b Bronze vases, incense burners, plates, etc. 454
- 69 Moore, C. F., Kiukiang.—Enamel vase and bowl, idols, jade plate. 454

Arboriculture and Forest Products.

- 71 Imperial Maritime Customs. 600
a Specimens of timber. 600
b Gallnuts and dyestuff. 602
c Camphor. 603
d Moss and fungus. 604
e Collection of nuts and seeds. 605
- 72 Fergusson & Co., Chefoo.—Red dyestuff. 608

Agricultural Products.

- 73 Fergusson & Co., Chefoo. 600
a Peas and beans. 600
b Tobacco. 601

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, Vegetable Products.

74 Imperial Maritime Customs.

- a* Cereals. 620
- b* Leguminous plants. 621
- c* Ginger. 622
- d* Tobacco and opium. 623
- e* Seeds. 624

75 Imperial Maritime Customs, Shanghai.—Collection of teas.

623

Water Animals, Fish Culture and Apparatus.**76 Imperial Maritime Customs.**

- a* Dried fish. 642
- b* Clams, dried. 644
- c* Fish glue and sea blubber. 646
- d* Instruments and apparatus of fishing. 647

77 Imperial Maritime Customs, Tamsui.—Collection of sea shells.

645

Animal and Vegetable Products.**78 Imperial Maritime Customs.**

- a* Seaweed. 650

- b* Leather, furs, skins, tallow, glue, etc. 652

- c* Honey and wax. 654

- d* Dried fruit. 656

- e* Flour. 657

- f* Vermicelli, macaroni, starch, etc. 658

- g* Sugar, etc. 659

- h* Wines, etc. 660

- i* Vegetable tallow and oil. 662

79 Fergusson & Co., Chefoo.

- a* Bean cakes. 657

- b* Vermicelli. 658

Textile Substances of Vegetable or Animal Origin.**80 Imperial Maritime Customs.**

- a* Cotton. 665

- b* Hemp, coir, etc. 666

- c* Wool. 667

- d* Hair. 669

81 Fergusson & Co., Chefoo.—Sample of hemp.

666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

JAPAN.

(South of Nave, Columns 5 to 11.)

COLLECTIVE EXHIBIT.

Minerals, Chemicals, Ceramics.

Minerals, Ores, Stone, Mining Products.

- 1 Kaitakushi, Department for the colonization of the Island of Hokkaido.—Minerals and geological collection from Hokkaido. 100
- 2 Kozanriyo, Mining Department, Tokio. 100
- 3 Ores. 100
- 4 Coals and anthracite. 101
- 5 Seki-yu Kuwaisha Petroleum Co., Tokio.—Mineral oils, crude and refined. 101
- 6 Hashimoto, S., Tokio.—Building stones. 102
- 7 Oyama, K., Chichibu, Province of Musashi.—Limestone and quick lime. 103
- 8 Hattori, C., Tokio.—Mortars. 103
- 9 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Clay, chinastone, kaolin, etc. 104
- 10 Chemical Laboratory of the City of Kiyoto.—Natural carbonated water. 107
- 11 Yeisei-Kiyoku, Board of Public Health, Tokio.—Mineral water statistics. 107

Chemical Manufactures.

- 10 Chemical Laboratory of the City of Kiyoto.—Pharmaceutical preparations. 200
- 11 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Vegetable oils, wax candles, etc. 201
- 12 Matsu-zaki, S., Yorita, Y., & Kondo, M., Tokio.—Soap. 201
- 13 Koshima, J., Tokio.—Shark liver oil. 201
- 14 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Japanese and Chinese ink. 202
- 15 Wada, Y., Tokio.—Indigo and specimens of dyed silk. 202

Ceramics—Pottery, Porcelain, etc.

- 16 Kobu-sho, Department of Public Works, Tokio.—Bricks. 206
- 17 Nakashima, R., Kagoshima, Province of Satsuma.—Vases, jars, tea sets, and ornamental pieces. 210

- 18 Kashiu, Sampo, Igano-Mura, Province of Awaji.—Vases, coffee and tea sets, candlesticks, etc. 210
- 19 Minoda, Ch., Tokio.—Ancient pottery and ornaments. 210
- 20 Miyagawa, T., Ota, near Yokohama.—Vases, censers, etc. 210
- 21 Susuki, Y., Yokohama.—Earthenware. 210
- 22 Shitomi Sohei, Yokka-ichi, Province of Ise.—Banko ware, vases, tea pots, etc. 213
- 23 Mori, Y., Yokka-ichi, Province of Ise.—Banko ware, vases, tea pots, bowls, etc. 213
- 24 Nakayama, M., Kuwana, Province of Ise.—Vases, cake boxes, and dishes. 213
- 25 Kato Gosuke, Tajimimura, Province of Mino.—Cups, covered bowls, flower pots, etc. 213
- 26 Fukihara, S., Tokio.—Cloisonné enamel on porcelain. 213
- 27 Koran-Sha Porcelain Manufactory, Arita, Province of Hizen.—Cups and flower vases, pedestals, tea and coffee services, etc. 213
- 28 Chaki-Shosha, Tea Set Manufactory, Kiyoto.—Tea pots, cups, jars, etc. 213
- 29 Tanzan Seikai, Kiyoto.—Vases, flower pots, dinner sets, jewel cases, photographs on porcelain, etc. 213
- 30 Kinkosan-Sobei, Kiyoto.—Vases, flower pots, plates, jewel cases, etc. 213
- 31 Takahashi, Dohachi, Kiyoto.—Vases, dishes, flower pots, etc. 213
- 32 Shimidzu Rokubei, Kiyoto.—Tarzas, vases, jars, sets, etc. 213
- 33 Kanzan Denshichi, Kiyoto.—Tea and coffee sets, incense cases, pitchers, and tablets. 213
- 34 Wage Kitei, Kiyoto.—Cigar stands, vases, basins, etc. 213
- 35 Mashimidzu Zoroku, Kiyoto.—Vases, flower pots, and dishes. 213
- 36 Shimidzu Shichibei, Kiyoto.—Tea and coffee cups and saucers, milk jugs, and sugar bowls. 213
- 37 Shimidzu Kameshichi, Kiyoto.—Tea and coffee sets. 213
- 38 Yelaku, Z., Kiyoto.—Bowls, flower vases and pots, egg cups, jewel cases, etc. 213

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 17-18.

Ceramics, Furniture, Woven Goods.

- 39 Tsuji, Ch., Kiyoto.—Toilet services. 213
- 40 Taizan Yohei, Kiyoto.—Tea sets, tazzas, etc. 213
- 41 Seifu Yohei, Kiyoto.—Vases, flower pots, bowls, etc. 213
- 42 Wateya, G., Kanazawa, Province of Kaga.—Coffee and tea sets, tea jars, cake boxes, and tazzas. 213
- 43 Yoshida, Y., Kanazawa, Province of Kaga.—Large bowls. 213
- 44 Awo, P., Kanazawa, Province of Kaga.—Vases, tea and coffee cups, bowls, etc. 213
- 45 Hekizan, T., Kanazawa, Province of Kaga.—Vases, cups, bowls, etc. 213
- 46 Seikan, S., Kanazawa, Province of Kaga.—Tea jars and coffee sets. 213
- 47 Kachoken, A., Kanazawa, Province of Kaga.—Flower vases and cake boxes. 213
- 48 Shosa, T., Kanazawa, Province of Kaga.—Coffee cups, flower pots, etc. 213
- 49 Setsuzan, A., Kanazawa, Province of Kaga.—Coffee and tea cups, teapots, and vases. 213
- 50 Haruna, S., Kanazawa, Province of Kaga.—Cake boxes, lamp vases, coffee and dinner sets. 213
- 51 Muneaki, Kanazawa, Province of Kaga.—Coffee sets. 213
- 52 Utsumi, K., Kanazawa, Province of Kaga.—Cups, vases, cake boxes, etc. 213
- 53 Yamakishi, Kanazawa, Province of Kaga.—Bowls, coffee cups, etc. 213
- 54 Chiuji, Kanazawa, Province of Kaga.—Coffee and tea pots. 213
- 55 Sekitei, I., Kanazawa, Province of Kaga.—Teapots, lamp vases, etc. 213
- 56 Kaga Association for the Encouragement of Manufactures.—Bowls, coffee cups, vases, etc. 213
- 57 Shinoda, K., Province of Kaga.—Flower vases, cigar stands, etc. 213
- 58 Hiyochiyen-sha, Manufactory of Painted Porcelain, Tokio.—Flower pots and vases, coffee and tea sets, dishes, tables, and ornaments. 213
- 59 Shippo-Kuwaisha, Cloisonné Enamel Manufactory, Nagoya, Province of Owari.—Enamel on porcelain. 213
- 60 Makudsu Kozan, Ota.—Flower and lamp vases, coffee sets, etc. 213
- 61 Minoda, Ch., Tokio.—Old and new porcelain. 213
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 c Elementary school books and apparatus.
 d Chairs and tables, etc., for schoolrooms.
 e Infant training and toys.
 f Reading and writing implements, such as were used by children in former times.

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- Maps, charts, globes, etc.
 Educational equipments, tables, pens, ink-boxes, blank books, paper, and other stationery.
 Abacus, arithmetical board, slates, pencils, etc.
 Examination paper for students.
 Designs and photographs for schools.
 Sectional specimens of woods.
 Leaves of various plants.
 Books of botany.
 Tabular statements of botanical classification.
 Moku-zai-sho-ran (album showing samples of the various woods used for industrial purposes).
 Artificial fruits.
 Ancient and modern medical and surgical books, and modern surgical instruments made by K. Iwashiyu.
 Medicines and drugs.
 I-in zas-si, miscellaneous reports of the hospital pertaining to the medical academy.
 Anatomical designs.
 Paintings and painting materials.
 Lacquer work, showing process of manufacture and implements used.
 Wood engravings and engraving-tools, blocks and types; printing materials.
 Photographs.
 Outline of the history of education in Japan; history of the literature and short historical sketch of the educational department. (All accompanied by the English translation.)
 Educational regulations, notifications, reports, miscellaneous information, and Riji-ko-tei (educational reports by F. Tanaka).
 Statistical table, showing the number of public and private schools, with their scholars, tabular statement of the revenue and expenditure of the public schools and the public school property, and other statistical tables relating to education.
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- 230 Minodo, Ch., Tokio.**—Metal pipe, paper weight, and statue. 413
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HAWAII.

(South of South Avenue, Columns 10 to 14.)

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Agricultural Products.

- 44a Wong Go.—Rice. 620
 44b Chulan & Co.—Rice and paddy. 620
 44c Waimanalo Plantation.—Rice. 620
 45 Hackfeld, H., & Co.—Coffee from H. N. Greenwell. 623

Land Animals.

- 46 Mills, J. D.—Hawaiian birds. 635

Animal and Vegetable Products.

- 47 Krull, E.—Tallow. 652
 48 Lyman, F. S.—Leather. 652
 49 Eldarts, T. E.—Arrowroot and tapioca. 658
 49a Dreier & Heine.—Manioc root. 658
 50 Spencer, T., Hilo.—Cane sugars. 659
 51 Hitchcock Bros., Hilo.—Cane sugars. 659
 52 Austin, S. L., Hilo.—Cane sugars. 659
 53 Afong & Achuck, Hilo.—Cane sugars. 659
 54 Campbell & Turton, Lahaina.—Cane sugars. 659
 55 Bailey, W. H., Wailuku.—Cane sugars. 659
 56 Makes, Capt. James, Ulupalakua.—Cane sugars. 659
 57 Alexander, S. T., Haku.—Cane sugars. 659
 58 Waihee Plantation, Mani.—Cane sugars. 659
 59 Lihue Plantation, Kauai.—Cane sugars. 659
 60 Kapena, J. M.—Samples of sugar cane. 659
 61 McLean, G. C.—Castor, coconut, and kukui oils. 662

Textile Substances of Vegetable or Animal Origin.

- 62 Holstein, H.—Sea Island cotton. 665
 63 Wilder, S. G.—Olona fibre. 666
 64 Hyman Bros.—Ramie fibre. 666
 65 Gilman, J. N.—Painiu fibre. 666

BRAZIL.

(North of Nave, Columns 58 to 61.)

Chemicals, Ceramics, Furniture.

Chemicals.

- 1 Lopez, F. J. de Almeida.—Salt-petre. 200
- 2 Muricy, J. C. da Silva.—Sulphur from quartz. 200
- 3 Leao, D. Agostinho, S. E.—Sulphuret of lead. 200
- 4 Lendenberg, L. B.—Salt. 200
- 5 Penna, A. G. d'Araujo.—Homœopathic vegetable tinctures and opodeldoc. 200
- 6 Chemical Laboratory.—Chemical and pharmaceutical preparations. 200
- 7 Maia, Ferreira, & Co.—Pharmaceutical preparations. 200
- 8 Perdigao, D. F. Z.—Pharmaceutical products. 200
- 9 Province of Maranhao.—Pharmaceutical preparations. 200
- 10 Province of San Paulo.—Medical preparations. 200
- 11 Yiotti, E.—Pharmaceutical preparations. 200
- 12 Province of Pará.—Medicinal oils. 200
- 13 Cardoso & Gonsalves.—Soap. 201
- 14 Alves, Pereira, & Co.—Soap and candles. 201
- 15 Guimaraes, A. J. A.—Soap and candles. 201
- 16 Oliveira & Bro.—Soaps. 201
- 17 Carvalho, Ferreira de, & Bro.—Soap and candles. 201
- 18 Stearic Light Co.—Soaps and candles. 201
- 19 Dias, Duarte.—Oils. 201
- 20 Province of Paraná.—Soaps and candles. 201
- 21 Safarana, J.—Wax candles. 201
- 22 Stechel.—Oils. 201
- 23 Silva, S. S. G. da.—Copying and writing ink. 202
- 24 Monteiro & Co.—Writing inks. 202
- 25 Guimaraes, J. A. da Sa.—Pigments and varnishes. 202
- 26 Province of San Paulo.—Writing inks. 202
- 27 Yillela.—Writing inks. 202
- 28 Henninger, Dan., & Co.—Toilet soaps. 203
- 29 Lang & Co.—Toilet soaps. 203
- 30 Leao & Alves.—Perfumery. 203
- 31 Freire, Otto.—Essences. 203

- 32 Lepage, F. J.—Essences and pomades. 203
- 33 Commission-General for the National Exhibitions.—Flavoring extracts, essences, and perfumery. 203
- 34 Lang, J.—Toilet soaps. 203
- 35 Province of Pernambuco.—Safety matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 36 Esberard, F. A. M.—Terra-cotta vases and pottery. 206
- 37 Colony of D. Francisca.—Bricks and tubes. 206
- 38 Commission-General for the National Exhibitions.—Bricks. 206
- 39 Leao, D. A. E.—Brick of gres (clay). 206
- 40 Province of San Pedro do Sul.—Stone bricks. 206
- 41 Province of Paraná.—Tiles and bricks. 206
- 42 Grillo, Amaro D.—Clay pots, cups, and vases. 207
- 43 Patury, J. J. S.—Clay pots. 207
- 44 Correa, J. S.—Slate tiles for pavements and roofing. 208
- 45 Muricy, J. C. da Silva.—Enameled tiles. 208

Furniture and Objects of General Use in Construction and in Dwellings.

- 46 Commission-General for the National Exhibitions.
 - a Parlor furniture. 217
 - b Tortoise-shell boxes and articles of straw. 218
- 47 Province of Paraná.—Furniture. 217
- 48 Army Arsenal of Porto-Alegre.—Secretary of cedar wood. 217
- 49 House of Correction of Bahia.—Furniture made by the inmates. 217
- 50 House of Correction of Rio de Janeiro.
 - a Secretary and cabinet suit of satinwood. 217
 - b Baskets, barrels, and stands for manioc flour. 224
- 51 Kern, Clara, & Lang, Tela.—Reclining chair. 217
- 52 Itabapoana, Baron of.—Reclining chair. 217
- 53 Gerth, R. J.—Willow furniture. 217
- 54 Kappel & Bro.—Wood works. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Woven Goods, Clothing.

- 55 Aguiar, J. C. da Costa.—Book-stand. 217
 56 Supplicity, J. F.—Hanging shelves and cane-seated chairs. 217
 57 Loesch, Zacharias.—Work-box. 217
 58 Moreira, F. J., & Co.—Chairs. 217
 59 Alipio, D. J.—Writing-desk of sole leather. 217
 60 Rodriguez, A. A.—Writing-desk. 217
 61 Province of San Paulo.—Suit of furniture made of straw. 217
 62 Keppler & Bro.
 a Wooden chairs. 217
 b Mouldings. 227
 63 Borddal, Jonas.—Tables and shelves. 217
 64 Province of Sancta Catharina.—Furniture. 217
 65 Rocha, Polybio da.—Multiform piece of furniture. 217
 66 Martinelli & Bro.—Marble fixtures for wash-stands. 219
 67 Pittanti, Adriano, & Co.—Marble wash-stand. 219
 68 Pommerais, Leon.—Imitation marbles. 219
 69 Baumgarten, J.—Box with looking-glass for examining eggs. 224
 70 Malcher, A. J., Gama.—Straw satchels and sieves. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 72 Person, A.—Wire cloths. 228
 73 Bardet, F.—Wire cloths and manufactures. 228
 74 Commission-General for the National Exhibitions.
 a Hammocks made of different coarse materials, and in different provinces. 229
 b Cotton fabrics, quilts, and towels. 230
 c Dyed cotton fabrics. 231
 75 Arouca & Co.—Cotton fabrics. 230
 76 Rebello & Co.—Cotton fabrics. 230
 77 Brazil Industrial Cotton Mill Co.—Cotton fabrics. 230
 78 Colony of Blumenau.—Cotton fabrics and quilts. 230
 79 Mascarenhas & Bros.—Cotton goods. 230
 80 Barros, Diogo A. de.—Cotton goods. 230
 81 Anhaia & Angelo.—Cotton goods. 230
 82 Union Mercantile Co.—Cotton goods. 230
 83 College of the Immaculate Conception.—Cotton hammocks. 230
 84 Yicara, C. P. Sa.—Cotton hammocks. 230
 85 Province of Paraná.—Twisted yarns. 230
 86 Petropolitan Co.—Cotton goods. 230
 87 Chaná, Barthelémy.—Dyed cotton goods. 230
 88 Reyner, F.—Dyed cotton goods. 231
 89 Lemes, R. Z. Paes.—Cotton articles. 232

- 90 Keller, Felipe.—Linen goods. 233
 91 Colony of St. Maria da Soledade.—Linen goods. 233
 92 Colony of Nova Petropolis.—Linen goods. 233
 93 Kalden, Baron of.—Linen goods. 233
 Woven and Felted Goods of Wool and Mixtures of Wool.

- 94 Lopez, F. J., Almeida.—Cloth, quilts, and cassimeres. 235
 95 Moura, J. C. de.—Cassimeres. 235
 96 Rheingantz & Vater.—Woolen goods. 235
 97 Machado, M. A.—Articles made of horsehair. 240

Silk and Silk Fabrics.

- 98 Reyhner, Fernando.—Silk goods. 245

Clothing, Jewelry, and Ornaments.

- 99 Dol, Ad., & Co.—Linen underwear. 250
 100 Lopez, F. J. A.—Pantaloons and other cotton wear. 250
 101 Roballo, J. J.—Coat of fine cloth. 250
 102 Grava, Frei L. da.—Knitted shirt. 250
 103 Amaral & Co.—Complete suit for gents. 250
 104 Fayett & Battcher.—Pantaloons. 250
 105 Commission-General for the National Exhibitions.
 a Wooden and leather shoes and cipó hats. 251
 b Walking-canes and articles of tortoise-shell and straw. 254
 c Leather suit worn by herdsmen. 257
 106 Chastel & Co.—Hats. 251
 107 Armada, J. Alvaro de.—Hats, caps, and bonnets. 251
 108 Bierrenback & Bros.—Hats and caps. 251
 109 Braga, Fernandes, & Co.—Hats, caps, and bonnets. 251
 110 Bithencourt, J.—Lasts for shoes. 251
 111 Viguiet.—Boots and shoes. 251
 112 Silva, J. B. Carvalho da.—Hats. 251
 113 Camará, J. E. P.—Hats. 251
 114 City Council of Cameta.—Hats. 251
 115 Santos, P. C. dos.—Hats. 251
 116 Bossel, H.—Felt hats. 251
 117 House of Correction, Rio de Janeiro.—Boots and shoes. 251
 118 Fischer, F.—Hats and caps. 251
 119 Figueredo & Co.—Boots and shoes worn by the army and navy. 251
 120 Cathiard, C. F.—Boots and shoes. 251
 121 Berthon.—Ladies' shoes. 251
 122 District of Paulo Alfonso.—Leather hats. 251
 123 Silva, H. J. da.—Canvas shoes. 251
 124 Requiao, F. P.—Hats. 251
 125 Gomes, M. M. Rodriguez.—Boots and shoes. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fancy Goods, Medical Appliances, Harness, Leather.

- 126 Sertorio & Pinho.—Kid gloves. 251
 127 Viguier, H.—Shoes. 251
 128 Moraes, J. C. de.—Silk hats. 251
 129 Fluminense Institute of Agriculture.
 a Hats made of the Bombonacea fibre. 251
 b Cigar cases made of the same. 254
 130 Valentin, M. J.—Jewelry. 252
 131 Resse, jr., Victor, & Bros.—Decorations. 252
 132 Natté, Miss.—Fancy objects made of feathers, as fans, coiffures, etc. 254
 133 Province of Amazonas.—Wreath of feathers. 254
 134 Lima, C. A. de, & Calarans, J. M. de.—Artificial flowers. 254
 135 Braga, A. J. F.—Feather articles. 254
 136 Cavalcanti, J. S. H.—Umbrella, with secret spring. 254
 137 Henke Bros.—Walking-canes. 254
 138 Leme, D. R. Paes.—Leather walking-canes. 254
 139 Rocha, J. P. da.—Buttons, earrings, and watch chain made of cocoa. 254
 140 Ferreira, L. Gomes.—Walking-canes. 254
 141 Barros, A. A.—Walking-canes. 254
 142 Bastos, José Xavier.—Carved walking-cane. 254
 143 Costa, J. F. da.—Pictures made of mosses and insects. 254
 144 Reis, H. F. dos.—Walking-cane. 254
 145 Province of Rio Grande do Norte.—Jewelry boxes of wood and tortoise-shell. 254
 146 Province of Maranhao.—Drinking-cups of wood. 254
 147 Silva, F. J. X. da.—Chalices and cups of sassafras. 254
 148 Sabut, George.—Objects made from pine-tree knots. 254

Paper, Blank Books, Stationery.

- 149 Leusinger Sons.—Blank books and specimens of binding. 261
 150 Seckler, J.—Specimens of ruling and binding. 261

Medicine, Surgery, and Prothesis.

- 151 Garrid, J. F. da Silva.—Druggist's scales. 274
 152 Merino & Co.—Surgical instruments. 276
 153 Costa, jr., M. F. da.—Artificial teeth. 277
 154 Faria, J. Bento da.—Artificial teeth. 277

- 155 Diniz, J. Borges.—Artificial teeth. 277

Hardware, Edge Tools, Cutlery, etc.

- 156 Commission-General for the National Exhibitions.—Knives, daggers, and other implements. 28:

Fabrics of Vegetable, Animal, or Mineral Materials.

- 157 Commission-General for the National Exhibitions.
 a Brooms, brushes, etc. 286
 b Cordage. 287
 158 Almeida, A. R. de.—Cordage. 287
 159 Andrade, J. Neves.—Baskets. 289
 160 Mello, G. C. de.—Wooden urn. 289

Carriages, Vehicles, Harness, and Accessories.

- 161 Commission-General for the National Exhibitions.—Harness and saddle. 296
 162 Guimaraes, A. A. A.—Lady's saddle. 296
 163 Maylasky, S.—Serigotis (a leather girth). 296
 164 Lima, F. Gomes dos Santos.—Girths. 296
 165 Cahy, Baron of.—Leather reins and bridles. 296
 166 Cranz, Joao, & Pinto.—Harness and horse collar. 296
 167 Schmitt, Nicolau, & Co.—Complete set of harness. 296
 168 Guimaraes, T. T. A.—Saddles. 296
 169 Coullant, Aimé.—Horse collars. 296
 170 House of Correction of San Paulo.—Bridles, reins, and harness. 296
 171 Almeida, A. L.—Leather reins. 296
 172 Moraes, T. C.—Saddle. 296
 173 Barros, J. de A.—Leather reins. 296
 174 Bierrengard, Waldemar.—Harness. 296
 175 Leao, A. E. de.—Whip. 296
 176 Barros, A. A., & Gaveao, B. A.—Whips. 296
 177 Freischlag, Frederico.—Harness. 296

Animal and Vegetable Products.

- 178 Klippel & Bro.—Hides and furs. 652
 179 Freischlag, F.—Patent leather. 652
 180 Costa, Eymael, & Co.—Tanned hides. 652
 181 Lima, F. G. S.—Tanned and sole leather. 652
 182 Richlin, Jacob.—Tanned and sole leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ARGENTINE REPUBLIC.

(South of Nave, Columns 2 to 5.)

Chemical Manufactures.

- | | |
|-------------------------------|--|
| Chemical Manufactures. | |
| 1 | Serravalle, Carlos, Province of Corrientes.—Chemical and pharmaceutical preparations. 200 |
| 1a | Cabrera, Mauro, Province of Buenos Ayres.—Horse medicine. 200 |
| 1b | Cardalda, Inocencio, Province of Buenos Ayres. |
| a | Iodoform and pepsin. 200 |
| b | Glycerine. 201 |
| 2 | Queirel, Joaquin, Province of Corrientes.—Depurative solution. 200 |
| 3 | Táva, Carlos, Province of Corrientes.—Bitters, digestive pepsin wine, pectoral syrup. 200 |
| 4 | Sub-Commission of Bella Vista, Province of Corrientes.—Salt extracted from clay; sample of clay. 200 |
| 5 | Perez, A. G., Province of La Rioja.—Tonic. 200 |
| 6 | Gelos, Martin, Province of La Rioja.—Mineral salt. 200 |
| 7 | Provincial Commission, Province of La Rioja.—Salt and alum. 200 |
| 7a | Lagos, Joseph M., Province of Buenos Ayres.—Sheep wash. 200 |
| 7b | Torres, Ana Barton de, Province of Buenos Ayres.—Fumigating lozenges. 200 |
| 8 | Provincial Commission, Province of Santiago del Estero.—Ashes for soap manufacturing. 200 |
| 9 | Provincial Commission, Province of Salta. |
| a | Salt. 200 |
| b | Soap. 201 |
| 10 | Justice of the Peace of Bahía Blanca, Province of Buenos Ayres.—Salt. 200 |
| 11 | Justice of the Peace of Patagones, Province of Buenos Ayres.—Salt. 200 |
| 11a | Rosquellas, Julian, Province of Santa Fé.—Medicines for animals. 200 |
| 12 | Murga, N., Patagones, Province of Buenos Ayres.—Coarse salt. 200 |
| 12a | Mujica, Eleuterio, S., Province of Buenos Ayres. |
| a | Artificial guano from dried and boiled blood. 200 |
| b | Soluble blood albumen for producing fast colors. 202 |
| 12b | Fabiet, Beltran.—Preserved and soluble blood. 200 |
| 13 | Provincial Commission, Province of Tucuman. |
| a | Sea salt. 200 |
| b | Soap. 201 |
| 14 | Commission of Andalgalá, Province of Catamarca.—Rock salt from Laguna Blanca. 200 |
| 15 | Provincial Commission, Province of Catamarca. |
| a | Rock salt from Fiambalá, and saltpetre. 200 |
| b | Soap. 201 |
| 16 | Lafone-Queveda, Samuel A., Province of Catamarca. |
| a | Ashes of Cachi Yuyo for the production of carbonate of soda; carbonate of soda. 200 |
| b | Soap. 201 |
| 17 | Provincial Commission, Province of Jujui.—Salt. 200 |
| 18 | Escobar, Juan D., Province of San Luis.—Salt. 200 |
| 19 | Terramola, Delfin, Province of San Juan.—Salt from the mines of Leoncito. 200 |
| 20 | Jones, Fabian, Province of San Juan.—Ashes for manufacturing soap. 200 |
| 21 | Vidal, M. A., Province of San Juan.—Ashes for manufacturing soap. 200 |
| 22 | Bruna, Estevan, Province of San Juan.—Ashes for manufacturing soap. 200 |
| 23 | Puertas, Lorenzo, Province of San Luis.—Cholera medicine. 200 |
| 24 | Escrich, Pedro, Province of Buenos Ayres.—Peanut oil. 201 |
| 26 | Piñeiro, Aurelio, Province of Buenos Ayres.—Soap. 201 |
| 27 | Lanieri, Miguel, Province of Entre-Ríos.—Soap. 201 |
| 28 | Iglesias, José, Province of Entre-Ríos.—Soap. 201 |
| 32 | Provincial Commission, Province of Córdoba.—Balsamic oil. 201 |
| 33 | Carmen, T. Dávila, Province of La Rioja.—Olive oil. 201 |
| 34 | Alric, Antonio, Province of San Luis.—Soap. 201 |
| 34a | Bergaré, Dr, Province of Santa Fé.—Peanut oil. 200 |
| 35 | Billar, Salvador, Province of Jujui.—Petroleum. 201 |
| 36 | Julien & Son, Province of Buenos Ayres.—Dyed stuff fabrics. 202 |
| 37 | Prat, Adrian, Province of Buenos Ayres.—Dyed wool. 202 |
| 38 | Doucet, Emilio, Province of Buenos Ayres.—Writing fluids. 202 |
| 39a | Muro, Antonio, Province of Buenos Ayres.—Inks. 202 |
| 40 | Herrera, Melchora, Province of Catamarca.—Cochineal. 202 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics, Furniture, Woven Goods.

- 43 Nolte, Ernesto, Province of Buenos Ayres.—Tooth powder. 203
 42a Corneja, Melchora T. de, Province of Salta.—Zarza water. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 43 Pedruncini, Juan, Province of Buenos Ayres.—Burnt bricks. 206
 44 Valdes, Emiliano, & Cipriano, Province of Buenos Ayres.—Burnt brick from Balcarce; brick made of black clay. 206
 45 Fauvety & De Ville Massot, Province of Buenos Ayres.—Bricks. 206
 46 Sub-Commission of the Department of Victoria, Province of Entre-Rios.—Architectural pottery. 206
 47 Tudicar, H., & Co., Province of Entre-Rios.—Bricks made in Gualeguaychú. 206
 48 Commission of the Department of Paraná, Province of Entre-Rios.—Tiles and bricks made in Victoria. 206
 49 Provincial Commission, Province of Córdoba.
 a Tiles of burnt clay, of San Vicente Factory. 206
 b Flower pots, jars, stew pans, and dishes. 207
 c Cup, jug, etc. 213
 50 Grunes & Co., Chaco-Argentine Territory.—Bricks. 206
 51 Cervera & Co., Province of Santa Fé.—Tiles and bricks. 206
 51a Provincial Commission, Province of Tucuman.—Bricks and tiles. 206
 53 Echevarria, Cecilio, Province of Santa Fé.—Pitchers made by Indians. 210
 54 Provincial Commission, Province of Salta.—Pans and plates. 213
 55 Provincial Commission, Province of San Luis.—Crockery. 213
 56 Alegre, Juan, Province of Corrientes.—Italian earthenware. 213
 57 Provincial Commission, Province of Corrientes.—Crockery. 213
 58 Pini & Co., Province of Buenos Ayres.—Glass cruet stand. 216

Furniture, and Objects of General Use in Construction and in Dwellings.

- 60 Provincial Commission, Province of Córdoba.
 a Tables of cocoanut and carob-tree wood. 217
 b Wooden cups, silver pitchers. 218
 62 Gimenez, Luis, Province of Buenos Ayres.—Combined writing-desk, wash-stand, etc. 217
 63 Galeano, Salvador, Province of Buenos Ayres.—Venetian blinds. 217
 64 Molinari, Joaquin, Province of Buenos Ayres.—Carved arm chair. 217
 65 Provincial Commission, Province of Catamarca.—Cups made of Retamo wood, silver drinking-tubes. 218
 67 Ladies' Commission, Province of San Luis.—Plain and carved cups. 218
 68 Provincial Commission, Province of Tucuman.—Cebil wood cups. 218
 69 Güemes, Domingo, Province of Salta.—Cup of palo santo wood. 218

- 70 Provincial Commission, Province of Salta.—Goblets and cup of palo santo wood. 218

- 71 Azzimonte, Luis, Province of Buenos Ayres.—Silver drinking-cup and tube. 218

- 71a Martinez, Antonio Souza, Province of Salta.—Stone cup. 218

- 72 Escobar, Juan D., Province of San Luis.
 4 Wooden dish and soup ladle. 224
 5 Wooden washing-tub. 225

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 74 Provincial Commission, Province of Mendoza.—Mat made by prisoners in the penitentiary. 229

- 75 Benevolent Society, Province of Buenos Ayres.—Hemp mat. 229

- 76 Provincial Commission, Province of Corrientes.—Cotton counterpanes; spun cotton. 230

- 77 Sotomayor, Pretrona, Province of Corrientes.—Cotton counterpane. 230

- 78 Mantilla, Concepcion, Province of Corrientes.—Cotton counterpane; spun cotton fabrics. 230

- 79 Sub-Commission of Bella Vista, Province of Corrientes.—Cotton thread. 230

- 80 Llanos, Jorge R. de, Province of Salta.—Poncho, a national garment. 230

- 81 Provincial Commission, Province of Salta.—Embroidered towel. 230

- 82 Zorilla, Benjamin, Province of Salta.—Hammock; poncho, a national garment. 230

- 83 Provincial Commission, Province of La Rioja.—Cotton shawl, table cloth, and carpet. 230

- 84 Provincial Commission, Province of Catamarca.—Cotton napkins and table cloth. 230

- 85 Ponce, Delfina, Province of Catamarca.—Table cloth. 230

- 86 Government of the Province of Catamarca.—Cotton table cloth, napkins, handkerchief, and counterpane. 230

- 86a Burgos, Josefa, Province of Catamarca.—Table cloth. 230

- 87 Echevarria, Cecilio, Province of Santa Fé.—White cotton from the Province of Corrientes. 230

- 88 Silva, Florentino, Province of Corrientes.—Cotton from Gayasta. 230

- 89 Commission of the Province of Santiago del Estero.—Cotton counterpane. 230

- 90 Provincial Commission, Province of Tucuman.—Poncho, a national garment. 230

- 91 Commission of the Province of Córdoba.—White counterpanes. 230

- 92 Roibon, Federico, Province of Corrientes.—Fabric made by Indians from a native plant. 233

- 93 Benevolent Society of the Paraná, Province of Entre-Rios.—Spun cotton and napkins. 233

- 94 Carreras, Rosaura C. de, Province of Mendoza.—Table mat. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28

Woven and Felted Goods, Clothing.

- 95 Provincial Commission, Province of Salta.—Cuirass made of chaguar grass. 233

Woven and Felted Goods of Wool, etc.

- 96 Provincial Commission, Province of Salta.
a Woolen fabrics, saddle bags, cloth, etc. 235

b Vicuña cloak. 240

- 97 Provincial Commission, Province of Jujui.
a Woolen fabrics, ropes and slings, saddle bags. 235

b Blanket. 237

- 98 Palacios, Prudencio, Province of Salta.—Woolen fabrics. 235

- 99 Diaz, Julia, Province of Catamarca.—Dyed woolen counterpane. 235

- 100 Lafone Quevedo, Samuel A., Province of Catamarca.
a Dyed poncho. 235

b Vicuña cloak, without seam, handkerchief and garment. 240

- 101 Carranza, Adolfo E., Province of Catamarca.—Woolen counterpane. 235

- 102 Government of the Province of Catamarca.
a Woolen articles. 235

b Vicuña blankets. 237

c Vicuña scarf, cloak, handkerchief, and quilt. 240

- 103 Provincial Commission, Province of Tucuman.
a Manufactures of wool. 235

b Vicuña cloak. 240

- 104 Provincial Commission, Province of Corrientes.—Yarns and woolen goods. 235

- 104a Devotee, A., Province of Buenos Ayres.—Ponchos, saddle cloth, and garters. 235

- 104b Campos, Julio, Province of Buenos Ayres.—Pampa girdle. 235

- 105 Sub-Commission of Bella Vista, Province of Corrientes.—Dyed woolen yarns. 235

- 106 Commission of the Province of Córdoba.
a Woolen yarns and fabrics. 235

b Tulumba blankets. 237

c Carpets. 239

d Vicuña counterpane. 240

- 107 Industrial Society of Rio de la Plata, Province of Buenos Ayres.—Cloth. 235

- 108 Provincial Commission, Province of Buenos Ayres.—Fabrics made by the Pampas Indians. 235

- 109 Provincial Commission, Province of Santiago del Estero.—Woolen counterpanes. 237

- 110 Provincial Commission, Province of San Luis.—Woolen mattress, saddle bags, quilt, blanket. 237

- 111 Provincial Commission, Province of La Rioja.
a Quilt, boa, etc. 237

b Vicuña cloak and shawl. 240

- 112 Provincial Commission, Province of San Juan.
a Woolen cloaks, blankets. 237

b Vicuña cloak and shawl. 240

- 114 Bustamante, Abdon, Province of Córdoba.—Blanket. 237

- 120 Carreras, Rosaura C. de, Province of Mendoza.—Ladies' head-dress, collars, bracelets, and gloves made of bristles. 240

- 121 Franco, Luis A., Province of Catamarca.—Vicuña cloak. 240

- 123 Schikendantz, Maria, Province of Catamarca.—Vicuña quilt. 240

- 125 Ocampo, Vicente, Province of Catamarca.—Vicuña shawl and coverlet. 240

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 138 Muntaner & Bermudéz, Province of Buenos Ayres.—Shirts. 250

- 139 Donato, Fortunato, Province of Buenos Ayres.—Child's suit. 250

- 140 Videla, Juan, Province of Buenos Ayres.—Leggings worn by the Argentine army. 250

- 141 Madueño, Jova, Province of Catamarca.—Vicuña handkerchief, neckties, gloves, etc. 251

- 142 Buasso, Lorenzo, Province of Buenos Ayres.—Boots and shoes made of domestic material. 251

- 142a Carneiro, Serafin A., Province of Buenos Ayres.—Vicuña hats. 251

- 143 Rodriguez & Sangronis, Province of Buenos Ayres.—Boots. 251

- 144 Buffeti & Maya, Province of Buenos Ayres.—Hats. 251

- 145 Heully, Marie, Province of Buenos Ayres.—Bonnets. 251

- 146 Valdes, Emiliano & Cipriano, Province of Buenos Ayres.—Boots. 251

- 146a Tramon, T., Province of Santa Fé.—Boots. 251

- 147 Provincial Commission, Province of Tucuman.
a Boots and shoes; hats. 251

b Towels, tuckers for chemises. 252

- 148 Provincial Commission, Province of Corrientes.
a Palm-leaf hats. 251

b Embroideries, laces, trimmings, etc. 252

- 149 Nicolas, Francisco, Province of Corrientes.—Boots made of snake skin. 251

- 150 Provincial Commission, Province of Córdoba.
a Shoes and kid boots. 251

b Embroidered saddle bags, tuckers, towels, pillow case, and insertions. 252

c Ostrich feather dusters, silver tinder box. 254

- 151 Machado, Ruben, Province of Catamarca.—Aibé straw hat. 251

- 152 Provincial Commission, Province of San Juan.—Wool hats. 251

- 153 Boulet, Lewis, & Isodoro Ibarre, Province of Santa Fé.—Fur hats. 251

- 154 Barelli, Francisco, & Son, Province of Santa Fé.—Boots. 251

- 155 Treolar, Guillermo A., Province of La Rioja.—Shoes worn by Argentine miners. 25

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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CHILI.

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- 4 Escudero, R., Santiago.—Samples of enameled tiles for flooring. 208

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- 5 Dell, Aquila A., Santiago.—Alabaster table tops. 217

Woven and Felted Goods of Wool, etc.

- 6 School for Poor Girls, Molina, Department of Lontue.—Assorted worsteds. 238

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- 7 School for Poor Girls, Molina, Department of Lontue.
 - a Knitted spread and afghan. 250
 - b Sofa-pillows of satin and lace; hand-made lace, crochet and lace ties, bed covers, embroidered tapestry rug, and silk parasol embroidered with tatting. 252
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- 27 "Mercurio" Printing Office, Valparaiso.—Various publications. 306
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- Ceramic Decorations, Mosaics, etc.**
- 34** Dell, Aquila A., Santiago.—Black marble table tops, inlaid with mosaic. 450
- 35** Dee, Jos6, Antonio, Valpara6so.—Wood mosaic. 452
- Machines, Tools, etc., of Mining, Chemistry, etc.**
- 36** Chili, Government of.—Working model of gold and silver amalgamating machine. 506
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b Ornamental woods of Chili. 601
- 39** Billerlich, Juan, Ancud.—Varnished woods. 601
- 40** Lontue, Department of.—Samples of wood. 600
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- 41** National Society of Agriculture, Santiago.
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- 42** Enrique, Clasen, & Co.—Cigars, cigarettes, smoking and leaf tobacco. 623
- 43** Cox, W. O.—Cut tobacco. 623
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- 55** Pretta, Pedro, Santiago.—Extract of coffee. 656
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- 57** Zapata, L., Department of Quillota, Province of Valpara6so.—Starch. 657
- 58** Donis, Felipe, Department & Province of Santiago.—Fruit syrup and lemonades. 659
- 59** Urmeneta, Jos6 Tomas de, Department of Limache, Province of Valpara6so.—Claret and sauterne wines. 660
- 60** Montane, R., Department of Limache, Province of Valpara6so.—Claret. 660
- 62** Campora Bros., Department of Santiago, Province of Santiago.—Wines and cider. 660
- 63** Ochagavia, Silvestre, Department of Santiago, Province of Santiago.—Claret and sauterne. 660
- 64** Infante, Manuel, Department of San Felipe, Province of Aconcagua.—Whisky, cider, and wine. 660
- 65** Rusque, Juan, Department of Quillota, Province of Valpara6so.—Claret. 660
- 66** Salva, de Pelle, Margarita, Department of Quillota, Province of Valpara6so.—Claret. 660
- 67** Zapata, L., Department of Quillota, Province of Valpara6so.—Whisky and claret. 660
- 68** Meneses, N., Department of Quillota, Province of Valpara6so.—Claret. 660
- 69** Rogers, Salamanca F., & Co., Department of Victoria, Province of Santiago.—Claret and sauterne. 660
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- 73** Gallo, Department of Copiapo, Province of Alacama.—Madeira wine. 660
- 74** Riquieri & Co., Department of Valpara6so, Province of Valpara6so.—Brandy, curagoa, and fancy liquors. 660
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48.

PERU.

(South of South Avenue, Columns 2 to 5.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education, Art, Agriculture.

Minerals, Ores, Stones, Mining Products.

- 1 Special Commissioner to the Exposition from Lima.—Minerals of Peru. 100

- 2 Helguero, Genaro S., Puirá.

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- 3 Davila é hyos, Maguegua.—Plans of Maguegua. 120

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- 4 Garces, Vicente, Puirá.—Soap. 201

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- 6 Davila, E., Lima.—Oil, soap, candles. 201

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- 8 Puirá, Department of.—Ponchas, towels, etc. 233

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- 10 Amazon, Department of the.—Vegetable silk. 244

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- 11 Brambilla, Fortunato, Lima.—Shirts, cuffs, and collars. 250

- 12 Ayacucho, Department of.

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- 13 Torre, Manuel Espirito la, Lima.—Gloves. 251

- 14 Navarro, Pedro, Catasos.—Straw hats. 251

- 15 Pinó, Manuel, Lima.—Gloves. 250

- 16 Penitentiary of Lima.

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- 17 Manzanares, Josefa, Lima.—Embroideries. 252

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- 22 Raimondi, Antonio.—Map of Peru. 300

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- 24 Cohille, Guillermo B., Lima.—Antiquities. 312

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- 25 Manual de la Vega, Juana.—"General Grant" (wire bust). 400

- 26 Barrenechea, Paulino, Lima.—Coat of arms of Peru (wood carving). 405

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- 27 Muniz, Ramon, Lima.—"La Chilena," "The Peruvian Rabona" (oil paintings). 410

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- 28 Municipal School of Lima.—Photographs. 430

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- 29 Ayacucho, Department of.—Woods from Huanta and La Mar. 600

- 30 Special Commission to the Exhibition.—Woods. 600

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- 32 Valcarcel, Venancio, Moguega.—Olives. 611

- 33 Pisco, Province of.—Raisins. 61

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 35 Loreto, Department of.—Nuts. 611

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 37 La Libertad, Department of.—Grains from the Province of Oxuxco. 620
 38 Loreto, Department of.
 a Beans. 621
 b Coffee. 623
 40 Ayacucho, Department of.—Coffee and cocoa. 623
 41 Amazon, Department of The.—Coffee and tobacco. 623
 42 Goybura, J. B., San Pedro.—Coffee. 623
 43 Pouehan, Antonio, & Co., Lima.—Cigars. 623
 44 Special Commissioner to the Exposition from Lima.—Huanco coffee. 623
 45 Puira, Department of.—Cigars. 623
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 50 Solf, Alfred, & Co., Chiclayo.
 a Rice. 657
 b Sugar. 659
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 51 Puira, Department of.—Starch. 658
 52 Laos, Mariano.—Sugars. 659
 53 Laos, Domingo, Lima.—Sugar. 659
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 56 Boza, José, Pisco.—Liquors, wines, and brandies. 660
 57 Davila é bigos, Lima.—Brandies. 660
 58 Torre, Marianola, Lima.—Wines. 660
 59 Palacios, Fernande, Lima.—Wines and brandies. 660
 60 Pandoy, José Maria, Algota.—Wines. 660

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 62 Barrios, José P., Moquegua.—Brandy and liquors. 66c
 63 Cabello, Gregorio, Lima.—Liquors, wines, and brandies. 660
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 75 Elias, D. & C., Lima.—Cotton. 665
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MEXICO.

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- 1 Mier, Antonio, State of Jalisco.—Natural salts of sodium. 200
- 2 Hay, Guillermo, City of Mexico.—Salts of sodium, extracted from the lakes of the Valley of Mexico. 200
- 3 Rio de la Loza, Manuel, City of Mexico.—Salts of sodium. 200
- 4 State Government of Yucatan, Merida.—Salts of sodium. 200
- 5 State Government of Campeche.—Salts of sodium. 200
- 6 State Government of Mexico.—Salts of sodium. 200
- 7 Rio de la Loza, Maximino.—Chemical products. 200
- 8 Ligerio, M., City of Puebla.—Stearine. 201
- 8a Hurtado, H.—White and red lead. 200

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- 9 Casarir, Alexander, & Co., City of Mexico.
 - a Indian vases. 206
 - b Porcelain. 213
- 10 Guerrero, Ygnacia, Puebla City.—Bricks. 206
- 11 State Government of Morelos.—Indian vases. 206

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- 12 Garcia, Francisco, State of Oaxaca.—Chairs of Mexican reeds. 217
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- 12b State Government of Yucatan.—Hammocks, shawls, bags, and other objects, made ofistle, or fibres, of the Mexican hereguen (agave of Yucatan). 229
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- 60 Almazan, Pascal.—Treatise on railroads. 306
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- 68 Garcia y Cubas, Antonio.—Geography and statistics. 306
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- 75 Marroqui, J. M.—Democratic catechism and orthology. 306
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- 77 Magalori, Horatio.—Italian grammar. 306
- 78 Orellana, Estevan.—Latin language. 306
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- 80 Orozco, Antonio.—Book-keeping. 306
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- 82 Paniagua, Cenobio.—Lessons on harmony. 306
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- 85 Ruis, Davila.—Metrical system. 306
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- 92 Arriago, Joaquim.—Recreative science. 306
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- 115 Maravedo, Salazar.—Military maneuvering. 306
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- 117 Martinez, Victor.—History of the Mexican Revolution. 306
- 118 Montell, Duarte.—Personal and civil rights. 306
- 119 Martinez, Joaquim.—Modern and ancient history and mythology. 306
- 120 Martinez, Del Rio.—Cultivation of cotton. 306
- 121 Nunez, Angel.—Geography of Vera Cruz. 306
- 122 Orasco, Manuel Berra J.—Hydrographical chart of the valley of Mexico, and geography of language. 306
- 123 Perez, E. Juan.—Statistical almanacs. 306
- 124 Perez, Hernandez.—Geographical dictionary. 306
- 125 Prieto, Guillermo.—Political economy, and other works. 306
- 126 Pimental, Francisco.—Comparative and descriptive sketch of American physiology. 306
- 127 Peon, José Contreras.—Historical romances. 306
- 128 Rivas, José.—Code of urbanity. 306
- 129 Sierra, Justo.—Maritime law. 306
- 130 Povan, Parraleon.—Parliamentary history. 306
- 131 Zayas, Pablo.—Dictionary of Mexican legislation, civil code. 306
- 132 Federal Government.—Works upon the gubernatorial system, relating to the department of the interior, war, navy, public instruction, topography, and other scientific subjects. 306
- 133 Pharmaceutical Society of Mexico.—Pharmacopœia of the city of Mexico. 306
- 134 Larry Scientific Association.—Historical accounts and reports of the proceedings of the association. 306
- 135 Mexican Scientific Society.—Works on education and geography. 306
- 136 Society of Natural History.—"La Naturaleza"—scientific newspaper. 306
- 137 Humboldt Society.—"Humboldt's Annals." 306
- 138 Department of Public Works.—Drainage of the valley of Mexico, topography of the federal districts of the city of Mexico, of the mountains of Pacheco, and of the palace of the archbishop of Mexico. 306
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- 154a Cesar, José Maria, City of Mexico.—Model of steam vessel. 595
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- 155 State Government of Vera Cruz.—Woods. 600
- 156 State Government of Puebla.—Woods. 600
- 157 State Government of Yucatan.—Woods. 600
- 158 State Government of Campeche.—Woods. 600
- 159 State Government of Mexico.—Woods. 600
- 160 State Government of Hidalgo.—Woods. 600
- 161 State Government of Colima.—Woods. 600

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4

Agricultural, Animal, Vegetable Products.

- 163 State Government of Morelos.—Woods. 600
 165 Jimenez, J., Cuernavaca City.—wood. 600
 166 Vallarta, L. Y.—Aloes, aromatic Woods. 600
 167 State Government of Oaxaca.—Indigo. 602
 168 State Government of Colima.—Indigo. 602
 169 Society of Natural History.—Gums and resins. 603
 169^a State Government of Oaxaca, Oaxaca City.—Resins. 603
 196^a State Government of Campeche, Campeche City.—Caoutchouc. 603

Agricultural Products.

- 170 Legarreta, A., Queretaro.—Cereals. 620
 171 Cuevas Bros.—Wheat. 620
 172 State Government of Puebla.—Cereals. 620
 173 State Government of Hidalgo.
 ^a Cereals. 620
 ^δ Coffee. 623
 174 State Government of Morelos.—Cereals. 620
 174^a Coahuistla Hacienda, State of Mexico.—Wheat. 620
 175 Society of Natural History.—Cereals. 620
 176 Cirilo, Mingo.—Córdoba coffee. 623
 177 Cuantecomatan Co., Colima City.—Coffee. 623
 178 Canedo, Señor.—Cigars and cigarettes. 623
 179 Martinez de la Torre, City of Mexico.—Cigars and tobacco-leaf. 623
 180 Gardida, Thomas.—Tobacco and cigars. 623
 181 State Government of Vera Cruz.—Coffee. 623
 182 State Government of Mexico.—Coffee. 623
 182^a State Government of Yucatan.—Coffee. 623
 182^b Ortiz, Anastacio, City of Mexico.—Tobacco. 623
 183 Balza Bros.—Cigars. 623
 184 Lascrain & Co.—Cigars, cigarettes, etc. 623
 185 Cainzo, Antonio.—Tobacco, etc. 623
 186 Madrazos & Co.—Tobacco, etc. 623
 187 Asylum for the Poor, State of Puebla.—Cigars, tobacco, etc. 623
 188 Escobedo Gral, State of Michoacan.—Coffee. 623
 189 Santiago Villa, Vera Cruz.—Córdoba coffee. 623

Animal and Vegetable Products.

- 190 Severino, Perez.—Pipitza-huina (a new vegetable base). 650
 190^a Garcia, Hilario, City of Mexico.—Skins. 652
 191 State Government of Oaxaca.—Skins. 652
 192 State of Colima.—Skins. 652

- 193 State of Puebla.—Skins. 652
 194 State Government of Yucatan.—Skins. 652
 195 State Government of Morelos.—Beeswax. 654
 196 State Government of Hidalgo.—Beeswax. 654
 196^a State Government of Oaxaca, Oaxaca City.—Beeswax. 654
 196^b Preparatory School, Mexico City.—Beeswax. 654
 196^c State Government of Hidalgo.—Vegetable wax. 654
 196^d Society of Natural History, City of Mexico.—Vegetable wax. 654
 197 State Government of Yucatan.—Oil of the insect niin, used for burnishing metallic instruments. 657
 198 Torres, N., Puebla City.—Flour. 657
 199 Society of Natural History.—Farrina. 657
 200 Ycazbalcata & Garcia.—Sugar. 659
 201 State Government of Coahuila.—Preserved fruits. 659
 202 State of Puebla.—Sugar. 659
 203 Zerango Hacienda.—Sugar. 659
 203^a State Government of Yucatan, Morida City.—Sugar. 659
 204 Oacalco Hacienda, State of Morelos.—Sugar. 659
 205 Goribar, Faustino.—Sugar. 659
 206 Clara Santa Hacienda.—Sugar. 659
 207 Atlihuayan Hacienda.—Sugar. 659
 207^a Ferrer, Ignacio, City of Mexico.—Chocolate. 659
 208 Campos, Fernande.—Fegulla liquor. 660
 208^a State Government of Yucatan.—Sugar. 659
 209 Paraiso Factory, Campeche Distillery.—Whisky. 660
 210 Ylizalituvú, Rivera.—Pulque (agave liquor). 660
 211 Cortez, Agapito.—Wines. 660
 212 Royo, Remegio, State of Coahuila.—Grape wines from Parras. 660
 213 Barreda, C.—Alcohol. 660
 214 Martinez, J. M.—Jehuacan Puebla wines. 660
 215 Boeza, Simon.—Wines. 660
 216 Society of Natural History.—Vegetable oils. 662
 217 Canas, Eduardo.—Olive oil. 662
 218 Morril, A.—Vegetable oils. 662
 219 Jaspeado, J.—Olive oil. 662
 220 State Government of Yucatan.—Ricino oil. 662
 221 Sayo, Vega de la, City of Mexico.—Vegetable oil. 662
 221^a Cordera, Manuel, City of Mexico.—Vegetable oil. 662

Textile Substances of Animal or Vegetable Origin.

- 222 State Government of Morelos, Cuernavaca City.—Cotton. 662

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-29.

Textile Fibres, Agricultural Engineering, Botanical Collections.

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|---|--|
| <p>222^a State of Coahuila, Saltillo City.—Cotton. 665</p> <p>222^b Pereda, Blas, San Luis Potosi City.—Cotton. 665</p> <p>222^c State Government of Campeche, Campeche City.—Cotton. 665</p> <p>222^d State Government of Hidalgo.—Cotton. 665</p> <p>222^e Herrera, Alfonso, Mexico City.—Products of chayote plant. 666</p> <p>222^f State Government of Oaxaca, Oaxaca City.—Vegetable fibres. 666</p> <p>222^g Juarez, T., Texcoco City.—Hemp. 666</p> <p>223 State of Yucatan.—Fibres. 666</p> <p>224 Cabo, J. de Villa.—Strings and cords. 666</p> <p>225 State of Hidalgo.—Fibres of the Mexican maguey. 666</p> <p>226 Lopez, Miguel.—Cords from the fibres of the agave. 666</p> | <p>227 Society of Natural History.—Wild silk. 668</p> <p>Agricultural Engineering and Administration.</p> <p>228 Gomez, Z., City of Colima.—Agrometre. 680</p> <p>228^a Rul, Miguel.—Photographic views of agricultural works and farms. 683</p> <p style="text-align: center;">Horticulture.</p> <p>229 Preparatory School of the City of Mexico.—Botanical collection of the Valley of Mexico. 709</p> <p>230 Barcena, Marinana.—Botanical map of the State of Queretaro. 709</p> <p>231 Ocampo, Miss J.—Botanical collections. 709</p> <p>232 State Government of Mexico.—Botanical collections. 709</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

(South of Nave, Columns 16 to 18.)

Chemical Manufactures.

Chemical Manufactures.

- 1 Community of Heirs of Añana, Salinas de Añana, Province of Alava.—Salt obtained by filtering and by evaporation. 200
- 2 Salines of Torrevieja, Province of Alicante.—Salt. 200
- 3 Rosa Martinez, Joaquin de la, Berja, Province of Almería.—Syrup of protiodide of iron and of ferruginous Peruvian bark. 200
- 4 Zabala Iñiguez, Justo, Dalías, Province of Almería.—Syrup of ferruginous Peruvian bark and concentrated essence of sarsaparilla. 200
- 5 Padilla, Francisco, Almería.—Carbonate of lead. 200
- 6 Sureda & Villalonga, Juan, San José, Ibiza, Baleares.—Chloride of sodium. 200
- 7 Estruch & Co., Andrés, Barcelona.—Manure. 200
- 8 Tobella & Argila, Francisco, J., Hospital de Llobregat, Province of Barcelona.—Manure. 200
- 9 Medinaceli, Duchess, Cardona, Province of Barcelona.—Sal gemma. 200
- 10 Sanchez, Miguel, Barcelona.—Mineral and sea salt. 200
- 11 Pons, Bartolomé, Sans, Province of Barcelona.—Cream of tartar and tartar crystal. 200
- 12 Fortuny Bros., Barcelona.
a Magnesia, mustard paper, etc. 200
b Almond oil. 201
- 13 Vte Mondova, Juan, San Juan, Porto Rico.—Cocoa butter, orange-flower water, citrate of lime, ricinus oil, almond oil, coconut oil, essential oil of orange-flower and lemon. 200
- 14 Dominguez, Celestino, Guyana, Porto Rico.—Cocoa butter, castor oil, and tobacco pepper essence. 200
- 15 Tauriño, Juan, Toledo.—Remedy for deafness. 200
- 16 Formiguera, G., Barcelona.—Pastilles, extracts, oil, syrups, liniments, etc. 200
- 17 Ferrer & Batlle, Barcelona.—Chemical and pharmaceutical preparations. 200
- 18 Arola, A., & Domenech, Francisco, Barcelona.—Chemical and pharmaceutical preparations. 200
- 19 Boada, G. & Travessa, Gracia, Province of Barcelona.—Sulphate of copper, chloride of tin, sulphuric acid, nitric acid, etc. 200
- 20 Provincial Commission, Burgos.—Calcined and black animal bone. 200
- 21 Regis Cieneros, Francisco, Burgos.—Cream of tartar. 200
- 22 Bensusan, Antonio J., Puerto-Real, Province of Cádiz.—Sea salt. 200
- 23 Calle, Bernardo, M. de la, Cadiz.—Sea salt. 200
- 24 Hidalgo y Berjano, Eduardo, Sanlúcar de Barrameda, Province of Cádiz.—Sea salt. 200
- 25 Forner Sales, Domingo, Burriana, Province of Castellon.—Orange flower and orange-flower water. 200
- 26 Corporation of Minglanilla, Province of Cuenca.—Sal gemma. 200
- 27 Gamboa y Calvo, José, Villalcayado, Province of Guadalajara.—Salt. 200
- 28 Muñoz, Marcelino, Imon, Province of Guadalajara.—Salt. 200
- 28a Marin, Manuel, Córdoba.—Essence of sarsaparilla, extract and syrup of eucalyptus, cod-liver oil, balsam opodeldoc, etc. 200
- 29 Leon Teruel, José, Huelva.—Salt obtained by evaporation. 200
- 30 Lopez de Codes, Tomás, Isle of Cristina, Province of Huelva.—Chemical guano. 200
- 31 Tapia y Pereira, Pedro, Isle Cristina, Province of Huelva.—Artificial guano. 200
- 32 Soriano, Aniceto, Jaen.—Salt obtained by evaporation. 200
- 33 Tiburcio Escabias, José, Jaen.—Salt. 200
- 34 Miguel Garcia, Manuel de, Jaen.—Salt. 200
- 35 Mas, Ramon, Lérida.—Barilla (impure soda). 200
- 36 Arteche, Angel Maria, Azofra, Province of Logroño.—Inalterable carbonate of iron. 200
- 37 Baanante, Juan, Chantada, Province of Lugo.—Mustard and cantharides powder. 200
- 38 Armesto Vinuesa, Francisco, Mondoñedo, Province of Lugo.—Peat. 200
- 39 Delf Factory of Sargadelos, Cerro, Province of Lugo.—Peat. 200
- 40 Jorge de la Peña, José, Lugo.—Peat. 200
- 41 Puerta, Gabriel de la, Madrid.—Emetic tartar. 200
- 42 Canales, Juan Bautista, Málaga.—Essence of lemon, citric acid. 200
- 43 Fuentes & Sons, Palencia.—Blister. 200
- 44 Escarpizo, Lorenzana, Augusto, Cangas, Province of Pontevedra.—Antiscorbutic and odontalgic elixir. 200
- 45 Gonzalez, Domingo Cecilio, Salamanca.—Nitrate of ammonia. 200

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48.

Chemical Manufactures.

- 46 Santiago Fuentes, Ignacio, Salamanca.—Chromic acid, arseniate of iron, etc. 200
- 47 Villar, José, Salamanca.—Pharmaceutical preparations. 200
- 48 Delgado, Joaquín, Seville.—Inalterable syrups. 200
- 49 Vinet, Trovifio, & Co., Seville.—Citric acid, hyposulphate of soda, etc. 200
- 50 Monge & Sanz, Bonifacio, Soria.—Digital, extract of digital, digitaline, essence of sarsaparilla, etc. 200
- 51 Cuchi y Deixens, Tomás, Tarragona.—Arsenic, extract of tar, and meat in powder. 200
- 52 Eyries, Agustín, Valladolid.—Phosphate of lime and nitrate of soda. 200
- 53 Flor Carenou, & Tur, Zaragoza.—Extract of liquorice. 200
- 54 Diaz & Acebedo, Cleto, Havana, Cuba.—Preservative to prevent oxidizing of metals. 200
- 55 Quesada & Garcia, Almería.—Soap. 201
- 56 Fuster, Francisco, Palma de Mallorca, Balearic.—Oil of sweet almonds. 201
- 57 Corps of Mountain Engineers, Lerma, Province of Burgos.—Juniper oil. 201
- 58 Vega Grande, Count of, Las Palmas, Canaries.—Walnut oil. 201
- 59 Carné & Moreno, Tarancon, Province of Cuenca.—Soaps. 201
- 60 Yaniz, Ambrosio, Villar del Humo, Province of Cuenca.—Juniper oil. 201
- 61 Coco & Bro., Celestino, Ubeda, Province of Jaen.—Soaps. 201
- 62 Gil de Muro, Isidoro, Andújar, Province of Jaen.—Common soaps. 201
- 63 Mon, Celestino, Rivadeo, Province of Lugo.—Soaps. 201
- 64 Perez Villamil, José, Rivadeo, Province of Lugo.—Soaps. 201
- 65 Juliá y García Nuñez, Eusebio, Madrid.—Soaps. 201
- 66 Yarritu, Sons of, Carabanchel Baio, Madrid.—Soap. 201
- 67 Saenz Martinez, José Benito, Málaga.—Stearine and candles. 201
- 68 San Roman, Pedro, Oviedo.—Prepared wax for the manufacture of matches. 201
- 69 Moneo & Mirat, Salamanca.—Soap. 201
- 70 Renau, Angel, Béjar, Province of Salamanca.—Soap. 201
- 71 Falcon, Ruiz & Llorente, Coca, Province of Segovia. 201
 a Resin oil. 201
 b Turpentine, varnish, and essence of turpentine. 202
- 72 Falcon, Ruiz & Llorente, Córdoba.—Resin and colophonum. 201
- 74 Astolfi, Carlos, Seville.—Soap. 201
- 75 Conradi Bros., Seville.—Soap. 201
- 76 Conradi, Sons of J. B., Seville.—Soap. 201
- 77 Gassau, José Antonio, Seville.—Soap. 201
- 78 Carol & Co., Antonio, Reus, Province of Tarragona.—Soap. 201
- 79 Marca, Salvador, Reus, Province of Tarragona.—Soap. 201
- 80 Oliva, Salvador, Reus, Province of Tarragona.—Olive oil soap. 201
- 81 Zamora, Francisco, Reus, Province of Tarragona.—Soap. 201
- 82 Ruedas y Pedraza, Lorenzo, Toledo.—Soap. 201
- 83 Agudo, Gonzalez, Leandro, Valladolid.—Soap. 201
- 84 Girart, Nicolás, Regla, Island of Cuba.—Purification of burning gas. 201
- 85 Planella Roure, Alejandro, Barcelona.—Colors, varnishes, cardboards, and canvas for painting. 202
- 86 Perez Romero, Diego, Huelva.—Collodion and photographers' varnish. 202
- 87 Acero, Antonio, Jaen.—Peroxide of aluminous iron. 202
- 88 Alcaraz Angulo, José, Madrid.—Ink. 202
- 90 Grau y Puig, José, Seville.—Bitumen. 202
- 91 Corporation of Belilla Medina, Province of Soria.—Ochre. 202
- 92 Serra, Juan, Reus, Province of Tarragona.—Ink. 202
- 93 Magallon, Francisco, Zaragoza.—Ink. 202
- 94 Miró & Corominola, José, Barcelona.—Spanish hair-dye. 203
- 96 Avilés y Merino, Francisco, Córdoba.—Alcohol, orange-peel syrup, etc. 203
- 97 Garcia Martinez, Francisco, Santiago de Compostela.—Ether. 202
- 98 Villalon, Eduardo, Madrid.—Toilet waters and cream. 203
- 99 Huelin & Son, Guillermo, Málaga.—Extract of liquorice. 203
- 100 MacAndrews & Co., Coria, Province of Sevilla.—Liquorice. 203
- 101 Llofriú, Manuel, Seville.—Rice flour. 203
- 102 Delgado, Joaquín, Seville.—Depurative and regenerative essence. 203
- 103 Padilla, José, Seville.—Tincture Bismarck. 203
- 104 Burguillo, Castro, Joaquín, Seville.—Vegetable balsam. 203
- 105 Estivill, Antonio, Reus, Province of Tarragona.—Orange-flower water. 203
- 106 Gisbert & Soler, Juan, Torredembarra, Province of Tarragona.—Dentifrice powder and elixirs. 203
- 107 Orive, Salustiano, Bilbao, Province of Vizcaya.—Chemical and pharmaceutical products. 203
- 108 Saliaz, Juan Vicente, Havana, Island of Cuba.—Cosmetic. 203
- 109 Lasa y Elizondo, Dionisio, Tarazona, Province of Zaragoza.—Phosphoric wax tapers. 204
- 110 Artiz Antonio, María, Havana, Island of Cuba.—Phosphorus. 203
- 111 Arteaga & Jáuregui, Havana, Cuba.—Phosphorus. 204
- 112 Military Pyrotechny, Seville.—Fuses, quick-matches, and cartridges. 204

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics, Glass, Furniture.

- 113 Muñoz Iñiguez, José, Seville.—Rockets. 204
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 115 Romeu & Barella, Hospitalet, Province of Barcelona.—Bricks and tiles. 206
- 116 Provincial Commission, Burgos.
a Tiles, bricks, and pipes. 206
b Pottery. 210
- 117 Escudero, Pascual, Burgos.—Bricks. 206
- 118 Bueso Fabregad, Vicente, Castellon.—Glazed tiles. 206
- 119 Fabregad & Co., Francisco, Castellon.—Glazed tiles. 206
- 120 Provincial Commission, Lugo.—Pottery. 206
- 121 Fernandez Castañeda, Telesforo, Las Rozas y Arroyo.—Tiles. 206
- 122 Ochoa, José María de, Segovia.—Bricks, tiles, and flagstones. 206
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239 Gisbert Pascual, Camilo, Alcoy, Province of Alicante.—Paten cloth. 235
240 Jordá & Sons, José, Alcoy, Province of Alicante.—Paten cloth. 235
241 Llacer, Agustín, Alcoy, Province of Alicante.—Paten cloth. 235
242 Llopis & Son, Widow of C., Alcoy, Province of Alicante.—Paten cloth. 235
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245 Pastor, Moltó, & Co., Alcoy, Province of Alicante.—Paten cloth. 235
246 Moltó y Sanz, José, Alcoy, Province of Alicante.—Satin. 235
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248 Monllor & Sons, Miguel, Alcoy, Province of Alicante.—Paten cloth. 235
249 Pascual & Co., Fabian, Alcoy, Province of Alicante.—Paten and edredon cloth. 235
250 Pascual, Santiago, Alcoy, Province of Alicante.—Paten cloth. 235
251 Perez & Son, Benito, Alcoy, Province of Alicante.—Corduroy cloth. 235
252 Perez, Sons of J., Alcoy, Province of Alicante.—Velvet cloth. 235
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254 Reig, Rafael, Alcoy, Province of Alicante.—Paten and velvet cloth. 235
255 Sanz & Sons, Widow of Felipe, Alcoy, Province of Alicante.—Paten cloth. 235
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264 Gonzalez Sanz, Luis, Riaza, Province of Logroño.—Cloths. 235
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268 Garcia Aranda, Antonio, & Co., Sonseca, Province of Toledo.—Cloths. 235
269 Bonel & Sons, Benito, Tarazona, Province of Zaragoza.—Cloths. 235
270 Provincial Commission of Pradolungo, Province of Burgos.—Flannels. 236
271 Delgado & Co., Faustino, Antequera, Province of Málaga.—Flannels. 236
272 Moreno, Widow of, Antequera, Province of Málaga.—Flannels. 236
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274 Delgado & Co., Faustino, Seville.—Waistbands. 237
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277 Planas, Sons of M., Sabadell, Province of Barcelona.—Woolen fabrics. 238
278 Sallares & Son, Juan, Sabadell, Province of Barcelona.—Woolen fabrics. 238
279 Buxeda Bros., Sabadell, Province of Barcelona.—Woolen fabrics. 238
281 Dalinau, José M., Barcelona.—Flannels. 238
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284 Arafó, Enrique, San Martin de Provençals, Province of Barcelona.—Woolen yarns. 238
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296 Nufiez Ramos, Francisco, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
297 Moreno y Sanchez, Francisco, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238

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- 300 Llanos Valle, Sebastian, Torrejuncillo,** Province of Cáceres.—Coarse cloth. 238
- 301 Llanos Moreno, Saturnino, Torrejuncillo,** Province of Cáceres.—Coarse cloth. 238
- 302 Bonilla, Ramon, Torrejuncillo,** Province of Cáceres.—Coarse cloth. 238
- 303 Serrano, Benito, Torrejuncillo,** Province of Cáceres.—Coarse cloth. 238
- 304 Society of Friends of the Country,** Las Palmas, Canary Islands.—Cloth. 238
- 305 Guimera Bro., Giner, Morella,** Province of Castellon.—Woolen textile. 238
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- 307 Aparicio, Jaime, Córdoba.—Ends** of cloth, and cloak. 238
- 308 Alvarez Otin Bros., Córdoba.—**Mountain cloaks and jergas. 238
- 309 Corporation of Pozoblanco,** Province of Córdoba.—Mantas and flannels. 238
- 310 Corporation of Bujalance,** Province of Córdoba.—Mantas and jergas. 238
- 311 Corporation of Villa del Rio,** Province of Córdoba.—Mantas, jergas, and mountain cloaks. 238
- 312 Cabezas Sarabia, José, Córdoba.—**Mountain cloak. 238
- 314 Provincial Deputation of Murcia.—**Manta. 238
- 315 Fuentes, Maria, Prádanos,** Province of Palencia.—Coarse cloth. 238
- 316 Garcia, Mauricio, Prádanas,** Province of Palencia.—Coarse cloth. 238
- 317 Val, Angel, Prádanos,** Province of Palencia.—Coarse cloth. 238
- 318 Martín, Domingo, Prádanos,** Province of Palencia.—Coarse cloth. 238
- 319 Gomez, Andrés, Astudillo,** Province of Palencia.—Cloth. 238
- 320 Olmeda, Faustino, Astudillo,** Province of Palencia.—Cloth. 238
- 321 Sanmillan, Manuel, Astudillo,** Province of Palencia.—Cloth. 238
- 322 Rodriguez Mambilla, Manuel, Astudillo,** Province of Palencia.—Cloth. 238
- 323 Hera, Vicente de la, Palencia.—**Mantas. 238
- 324 Arroyo, Gerónimo, Palencia.—**Mantas. 238
- 325 Aguilar Calvo, Antonio, Amusco,** Province of Palencia.—Flannel. 238
- 327 Corporation of Vitigudino,** Province of Salamanca.—National manta and sayal. 238
- 329 Alia & Lopez, Miguel, Escalonilla,** Province of Toledo.—Counterpane. 238
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- 332 Perdiguero, Guillermo, Valladolid.—**Mantas. 238
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- 337 Durán, J., & Son, Sabadell,** Province of Barcelona.—Woolen fabrics. 241
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- 344 Oñate, Sons of, Valencia.**
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- 345 Piedrola, Juan de Dios, Granada.—**Twisted silk. 243
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- 352 Ferrer & Co., Joaquin, Barcelona.—**Silk goods. 245
- 353 Gué & Co., G., Barcelona.—Silk** goods. 245
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- 357 Ibañez Palenciano, Fernando,** Valencia.—Gró, taffetas, damasks, and poplins. 245
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- 383 Piédrola, Juan de Dios, Granada.—Woven silk. 248
- 385 Blanco, Emilio, Seville.—Trim-mings. 249
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- 370 Corporation of Bujalance, Province of Córdoba.—Jacket. 250
- 371 Salgado Rodriguez, Rafael, Santiago, Province of la Coruña.—Jacket, pants, and vest. 250
- 372 Direction of Cavalry, Madrid.—Military equipment. 250
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- 376 Sala Baladia & Coll, Barcelona.—Cotton hosiery. 250
- 377 Oliver & Co., Mataró, Province of Barcelona.—Cotton shirts, hose, and socks. 250
- 377a Garcia, Aranda, & Co., Antonio, Sonseca, Province of Toledo.—Working men's cloaks. 250
- 378 Beltran & Lopez, José, Elche, Province of Alicante.—Sandals and slipshods. 251
- 379 Ceva y Llorens, Enrique, Elche, Province of Alicante.—Sandals. 251
- 380 Diaz Corrales, Antonio, Madrid.—Boots, shoes, and slippers. 251
- 381 Cardona Baldrich, José, Barcelona.—Corsets and waistbands. 251
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- 383 Conde Puerto & Co., Barcelona.—Shirts. 251
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- 393 Pintado y Morales, Luis, Ciudad-Real.—Hat. 251
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- 395 Rodriguez, Rafael, Coruña.—Boots and shoes. 251
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- 397 Fernandez & Toscano, José, Huelva.—Shoes and boot patterns. 251
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- 410 Gonzalez, Fermin, Peñaranda, Province of Salamanca.—Hats. 251
- 411 Ralero, Epifanio, Segovia.—Shoes. 251
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- 413 Gely Bros. & Co., Seville.—Kid gloves. 251
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- 150 Provincial Commission, Vivero, Province of Lugo.—Basket and needle-case of straw. 254
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- 457 Rey Gomez, Andrés, Presidio de Santoña, Province of Santander.—Lady's work-box, covered with straw. 254
- 458 Gimenez, Justo, Presidio de Santoña, Province of Santander.—Glove-box, covered with straw. 254
- 459 Fraola, José, Santoña, Province of Santander.—Bottles, covered with straw. 254
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- 461 Urbina, Meliton, Santoña, Province of Santander.—Hampers and match-box, of straw. 254
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- 464 Sans de Mardevall, Alejandro, Valencia.—Fans. 254
- 465 Massaguer & Lledó, Valencia.—Fans. 254
- 466 Noailles, Antonio, Zaragoza.—Cane and cane-heads. 254
- 467 Salvi y Don Antonio, Barcelona.—Combs of horn and tortoise shell. 254
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- 469 Ribot & Bros., Estéban, Granada.—Portmanteau. 254
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- 475 Perez, Miguel, Carvajales, Province of Zamora.—Cloak. 257
- 476 Heras, Elena de las, Almeida, Province of Zamora.—Complete woman's dress. 257
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- 478 Ferrer & Son, Widow of, Alcoy, Province of Alicante.—Cigarette paper. 259
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- 481 Romani & Puigdemogolas, Juan, Capellades, Province of Barcelona.—Paper. 259
- 482 Vila & Son, Cristóbal, Capellades, Province of Barcelona.—Paper. 259
- 483 Valadia, Conrado, Barcelona.—Cigarette paper. 259
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- 487 Guarro, Wenceslao, Gélida, Province of Barcelona.—Paper. 259
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- 489 Romani & Tarres, Sons of, Capellades, Province of Barcelona.—Paper. 259
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- 496 Gavaarro, Mora, José, Bocayrente, Province of Valencia.—Cigarette paper. 259
- 497 Comas Delgado, Rafael, Onteniente, Province of Valencia.—Cigarette paper. 259
- 498 Pesquera, Alonzo, Miguel, Sardon del Duero, Province of Valencia.—Cigarette paper. 259
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- 509 Soldevilla, Estanislao, Madrid.—Double-barreled pistols. 265
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- 515 Manufactory of Side-arms, Toledo.—Side-arms. 268
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- 517 Manufactory of Arms, Toledo.—Hunting knife, Arabian sword blade, gumia (dagger) blade, and dagger. 268
- 518 Harzabel, Teodoro, San Sebastian, Province of Guipuzcoa.—Sword, dagger, and shield. 268
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- 521 Alien, Pedro, Gracia, Province of Barcelona.—Mechanical and hand fishing rods. 270
- 522 Roca Bros., Murcia.—Wormgut fishing line. 270
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- 525 Terrades & Vallmana, Jaime, San Feliu de Guixol, Province of Gerona.—Liquid vulcanized sulphur. 272
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- 529 Orduña, Calixto, Cascanete, Province of Navarra.—Poppy capsules. 272
- 530 Gibert & Soler, Juan, Torredembarra, Province of Tarragona.—Lemon essence. 272
- 531 Corporation of Vinuesa, Province of Soria.—Chamomile. 272
- 532 Pelaez, Raphael, Havana, Cuba.—Balsam. 272
- 533 Serra & Font, José, Sabadell, Province of Barcelona.—Stomach liquor. 272
- 534 Casademont, Modesto, Barcelona.—Apparatus for the finishing of pills. 272
- 535 Revuelta Carrillo & Montes, Doctor, Jerez de la Frontera, Province of Cadiz.—Uteroscope. 276
- 536 Gastaldo, Doctor José, Madrid.—Blepharotome. 276
- 537 Pozuelo & Canto, Francisco, Madrid.—Gynecological apparatus. 276
- 538 Losada, Leocadio, Palacios de Goda, Province of Avila.—Set of teeth, atmospheric pressure. 277
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541 Valenzuela, Manuel, Seville.—Set of artificial teeth. 277

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543 Corporation of Bujalance, Province of Córdoba.—Gimlets for hard woods. 280

544 Cabeza, Angel, Husillos, Province of Palencia.—Hammers. 280

545 National Factory of Trubia, Province of Oviedo.—Files. 280

546 Rosa & Carín, Jaime, Torres-Torres, Province of Valencia.—Watchmaker's tool. 280

547 Metallurgical Co. of San Juan de Alcaráz, Province of Albacete.—Knockers, door knobs, latches, bolts, etc. 284

548 His Majesty the King of Spain, Madrid.—Locks and ornamental ironwork for dwellings. 284

549 Corcho, Domingo, Santander.—Bronze nails. 284

550 Flechoso, Gregorio, Santander.—Key and latch. 284

551 Benito, Santiago de, Escorial, Province of Madrid.—Lock and padlock. 284

552 Metallurgical Co. of San Juan de Alcaráz, Province of Albacete.—Collection of objects of metal. 284

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553 Fuentes & Ponte, Javier, Murcia.—Piece from the body of an antique coach. 292

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559 Alberiel, José Carreras.—Harness and reeds for looms. 521

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570 Escuder y Castella, Miguel.—Sewing machines. 531

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571 Bentabol y Ureta, Horatio, Madrid.—Apparatus for the rectilinear transmission of power.

554 Saiz, Juan, Burgos.—Saddle armor. 296

555 Direction General of Cavalry, Madrid.—Complete mounting. 296

556 Rodríguez Zurdo, José, Madrid.—Ladies' saddles, with bridles, bits, etc. 296

557 Díaz, Antonio, Málaga.—Andalusian harness. 296

558 Fuentes & Ponte, Javier, Murcia.—Soft skin put on the forehead of working oxen to prevent their being hurt by the yoke; halter, breast-leather, crupper. 296

559 Rio, Rafael del, Peñaranda de Bracamonte, Province of Salamanca.—Hemp bridles. 296

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561 Martín & Bros., Demétrio, Peñaranda de Bracamonte, Province of Salamanca.—Horse cover. 296

562 Aranda & Co., García, Antonio, Sonseca, Province of Toledo.—Horse covers. 296

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565 Laties, Marcos, Madrid.—Four shields; coat of arms; six frames, with subjects in bronze. 454

566 Pando, Acha y García, Seville.—An ornamented iron frame. 454

567 Metallic Co. of San Juan de Alcaraz, Province of Albacete.—Collection of metallic objects. 454

568 Harzahal, Teodoro, St. Sebastian, Province of Guipuzcoa.—Sword, knife, and shield. 454

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572 Campos, Manuel María, Habana, Cuba.

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573 Ballesteros, Elias Aurelio, Madrid.—Apparatus for aerial navigation. 592

576 Arozena, Sebastian, Santa Cruz de Palma, Canary Islands.—Designs and models of boats and vessels. 594

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- 2 Rodriguez, Lucia, Province of Pampanga.—Tintaron. 202
- 3 Buison, Nicasio, Province of Bataan.—Tantarron. 202
- 4 Gonzalez, Mariano, Province of Santa Cruz, Province of Manila.—Japan varnish. 202
- 5 Rodriguez, José, Province of Ilocos Sur.—Indigo. 202
- 6 Rodoreda, Francisco, Province of Manila.—Indigo. 202
- 7 Llamas, Gabriel de, Province of Manila.—Balsam Dugtungajas. 203
- 8 Gruppe, Gustavo, Province of Manila.—Philippine drugs. 203
- 9 Reymann, Oscar, Province of Manila.—Philippine essences. 203
- 0 Westernhagen, Agustin, Province of Manila.—Philippine essences. 203
- 1 Provincial Board, Province of Batangas.—Balsam maria, and Pacayaus. 203

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- 12 Alibalas, Crisanto, Province of Bulacan.—Buri mats. 229
- 13 Gil, Rafael, Province of Pampanga.—Buri brooms. 229
- 14 Villamarzo, Tiburcio, Province of Tayabas.—Buri mats. 229
- 15 Oliveros, Miguel, Province of Pampanga.—Buri mats and bags. 229
- 16 Buison, Julian, Province of Pampanga.—Buri mats. 229
- 17 Rojas, Juan M., Province of Pangasinan.—Buri mats and Saguran matting. 229
- 18 Vera Bauton, Maria, Province of Albay.—Work baskets. 229
- 19 Ramos, José, Province of Bohol.—Saguran mats. 229
- 20 Provincial Board, Province of Masbate.—Nito baskets. 229
- 21 Provincial Board, Province of Mindoro.—Basket of cane and nito. 229
- 22 Provincial Board, Province of Bohol.
 - a Sagurang, Sabatan mats and buri bags. 229
 - b Buri and sinamay fabrics. 233

- 23 Provincial Board, Province of Batangas.
 - a Buri mats. 230
 - b Cotton fabrics. 230
 - c Sinamay, Guinaras, and Jusi fabrics. 233
- 24 Provincial Board, Province of Antigua.
 - a Cocoa basket. 229
 - b Cotton fabrics and counterpanes. 230
 - c Abacá, sinamay, piña and jusi fabrics. 233
- 25 Villamen, Clemencia, Province of Batangas.—Cotton bagging. 230
- 26 Bravo, Fr. Antonio, Province of Pampanga.—Cotton tapestry. 230
- 27 Gomez, Nepomuceno, Province of Pampanga.—Cotton towels and napkins. 230
- 28 Martinez, Margarita, Province of Ilocos Sur.—Cotton fabrics. 230
- 29 Batlle y Hernandez, José Paay, Province of Ilocos N.—Cotton blanket. 230
- 30 Prado, Margarito, Province of Antigua.—Cotton towel. 230
- 31 Simson, Alexandra, Province of Ilocos Sur.—Cotton fabric. 230
- 32 Mendez, Bartolomé A., Province of Batangas.—Cotton fabric. 230
- 33 Garcia, Cipriana, Province of Pampanga.
 - a Cotton napkins and fabric. 230
 - b Fabrics of pineapple leaf fibres. 233
- 34 Dumayuga, Procesa, Province of Batangas.
 - a Cotton handkerchief and saya (native garment). 230
 - b Abacá fabrics, and shirt of sinamay. 233
- 35 Provincial Board, Province of Mindanao.
 - a Cotton fabrics. 230
 - b Dyed cotton fabrics. 230
 - c Guinaras fabric. 233
- 36 Governor and Municipality of San Pedro, Province of Antigua.
 - a Cotton counterpanes. 232
 - b Fabrics of sinamay and pineapple leaf fibres. 233
- 37 Reyes, Juana, Province of Batangas.—Abacá shirting. 233
- 38 Agregado, Angel, Province of Batangas.—Abacá shirting. 233
- 39 Sangalan, Maria, Province of Batangas.—Towels. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48

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- 40 Governor and Municipality of Liba-
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- 41 Quiamson, Lázaro, San José, Prov-
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- 42 Governor and Municipality of Siba-
lon, Province of Antigua.—Sinamay
fabric. 233
- 43 Rania, Tio de la, Province of Iloilo.
—Sinamay fabric and piña and jusi hand-
kerchiefs. 233
- 44 Calacao, Apolinario, Province of
Iloilo.—Sinamay fabric. 233
- 45 Provincial Board, Province of Sa-
mar.—Jusi fabric. 233
- 46 Feced, José, Province of Manila.—
Piña and abaca fabrics. 233
- 47 Flores, Segunda, Manila, Province
of Manila.—Sinamay fabric, and jusi shirt
and handkerchief. 233
- 48 Temprado, Ramon F., Province of
Camarines Sur.—Handkerchiefs of pine-
apple leaf fibres and sinamay. 233
- 49 Prieto, Federico, Province of Albay.
—Abaca fabric. 233
- 50 Gallegos, Tomás, Province of Albay.
—Sinamay fabric. 233
- 51 Roca, Joaquín E. de, Province of
Albay.—Guinaras fabric. 233
- 52 Prieto, Federico, Province of Albay.
—Jusi fabric. 233
- 53 Yuson, Plácido, Province of Iloilo.
—Jusi fabric. 233
- 54 Riosa, Juana, Province of Albay.—
Jusi fabric. 233
- 55 Hernandez, Telesforo, San José, Prov-
ince of Batangas.—Jusi fabric. 233
- 56 Guevara, Saturnino, Province of
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- 57 Provincial Board, Province of Leyte.
—Sinamay and guinaras fabrics. 233
- 58 Provincial Board, Province of Taya-
bas.—Fabric of pineapple leaf and sin-
amay. 233
- 59 Gonzalez J., Dolores, Province of Ba-
tangas.—Jusi handkerchiefs. 233
- 60 Provincial Board, Province of Albay.
—Sinamay fabric. 253

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- 61 Provincial Board, Province of Pam-
panga.—Silk tapestry. 246
- 62 Bravo, Antonio, Macabebe, Prov-
ince of Pampanga.—Silk handkerchief. 247
- 63 Provincial Board, Province of Ba-
tangas.—Silk handkerchiefs. 247
- 64 Flores, Segunda, Manila, Province
of Manila.—Silk saya. 247
- 65 Gomez, Nepomuceno, Province of
Pampanga.—Silk handkerchiefs. 247
- 66 Feced, José, Province of Manila.—
Silk handkerchief. 247

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- 67 Reyes, Juana de los, Province of
Batangas.—Cotton pantaloons. 250
- 68 Saldares, Wenceslao, Province of
Tayabas.—Nito and panday hats. 251

- 69 Esteves, Fr., Province of Albay.—
Nito hat. 251
- 70 Rosales, Gregoria, Province of Tay-
abas.—Buri hats. 251
- 71 Arguin, Eustaquio, Province of Tay-
abas.—Nito webs. 251
- 72 Gallego, Tomás, Province of Albay.
—Nito hat. 251
- 73 Provincial Board, Province of Ma-
nila.
a Nito hats, sandals, and clogs. 251
b Nito cigarette cases. 254
- 74 College of St. Isabel, Province of
Manila.
a Sandals for women. 251
b Embroidered velvet watch-stand. 252
c Pictures of artificial flowers and hair-
work. 254
- 75 Prieto, Federico, Tabaco, Province
of Albay.
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b Nito cigarette cases. 254
- 76 Rojas, Juan M. de, Province of Pan-
gasinan.
a Buri and Nito hats. 251
b Buri, Nito, and Uay cases. 254
- 77 Martinez, Dorotea, Province of Ba-
tangas.—Embroidered silk bag. 252
- 78 Mendoza, Perfecta, Province of Ma-
nila.—Picture and embroidered pin-cush-
ion. 252
- 79 Morales, Lucina, Santa Cruz, Prov-
ince of Manila.—Embroidery. 252
- 80 Davila, Teodora, Navotas, Province
of Manila.—Embroidered shawl. 252
- 81 Trinidad, Maria, Province of Ba-
tangas.—Silk bag embroidered with gold.
252
- 82 Badon, Bartolomé, Province of
Camarines Sur.—Embroidered sleeves
made of pineapple leaf fibres. 252
- 83 Batlle y Hernandez, José, Hermita,
Province of Manila.—Embroidered hand-
kerchiefs made of pineapple leaf fibres.
252
- 84 Provincial Board, Lucban, Province
of Tayabas.—Buri cases. 254
- 85 Cadelisño, Pedro, Province of Tay-
abas.—Salacot (natural head-dress) of
horn. 254
- 86 Feced, José, Province of Manila.—
Tobacco and cigarette cases. 254
- 87 Vidal, Balingag, Province of Bula-
can.—Nito cases. 254
- 88 Garcia, Cipriano, Province of Pam-
panga.—Silk purses with silver rings. 254
- 89 Reyes, Laureana; Huerto, Josefa;
Martinez, Arcadia; Bello, Toribia, Prov-
ince of Batangas.—Ornaments of fish
scales. 254
- 90 Provincial Board, Province of Ba-
tangas.—Picture of artificial branches.
254
- 91 Ilustre, Gregoria, Taal, Province of
Batangas.—Ornament of glass beads. 254
- 92 Uson, Antonio, Province of Ilocos
Sur.—Pipes, buttons of buffalo horn, gold-
headed coral cane. 254
- 93 Provincial Board, Province of Ma-
nila.—Tortoise-shell combs and hair
drinking-cups. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-

Clothing, Fancy Goods, Weapons, Harness.

- 94 Leonardo, Quintin, Province of Laguna.—Salacot (national head-dress) of horn and silver. 254
- 95 Ilagan, Gregoria; Ilagan, Leoncia; Cabrera, Eulalia; Garcia, Leoncia; Montenegro, Eulalia; Montenegro, Maria, Province of Batangas.—Feathers with gold. 254
- 96 Ilustre, Timotea, Province of Batangas.—Flowers of glass beads. 254
- 97 Máximo, Isabel & Evarista, Province of Batangas.—Artificial flowers. 254
- 98 Jordana & Morera, Manila, Province of Manila.—National wearing apparel. 257
- 99 Provincial Board, Province of Batangas.—Pantaloons and saya, the national garment. 257

Weapons, etc.

- 100 Economical Society, Province of Manila.—Collection of national arms and photographs of same. 265
- 101 Provincial Board, Province of Mindanao.—Collection of national arms and photographs. 265
- 102 Provincial Board, Province of Bulacan.—Hunting-knives and sheaths. 268

Carriages, Vehicles, and Accessories.

- 103 Osmeña, Rita, & Co., Province of Cebú.—Harness made of abacá. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PORTUGAL.

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Chemical Manufactures, Ceramics.

Chemical Manufactures.

- 1 Direction of the Works at Mondego river & Figueira bar, Figueira da Foz.—Salt. 200
- 2 Samora Correa, Baroness, Lisbon.—Salt. 200
- 3 Companhia das Lezírias do Tejo e Sado, Lisbon.—Salt. 200
- 4 Vinva, A. J. Judice, Masilhaeira.—Salt. 200
- 5 Bandeira, A.S.B.M., Setubal.—Salt. 200
- 6 Branca, Anna Delphina, Alcacer do Sal.—Salt. 200
- 7 Bivar, Jeronymo, d'A. C. de, Algarve.—Salt. 200
- 8 Cooke & Co., Figueira da Foz.—Salt. 200
- 9 Drack, Jr., José R. G., Lisbon.—Pharmaceutical preparations. 200
- 10 Cresswell & Co., Lisbon.—Salt. 200
- 11 Castello Branco, João da S. F., Villa Franca de Xira.—Salt. 200
- 12 Delegny Bros., Lisbon.—Chemicals. 200
- 13 Franco, Pedro Augusto, Belem.—Pharmaceutical preparations. 200
- 14 Figueiredo, Joaquim, Aviz.—Pharmaceutical preparations. 200
- 15 Ferraz, José Libertador Magalhaes, Coimbra.—Pharmaceutical preparations. 200
- 16 Galiano, Manuel d'Asfes, d'Oliveira, Oporto.—Pharmaceutical preparations. 220
- 17 Gragera, Antonio Maria Mendes, Villa Nova de Reguengos.—Pharmaceutical preparations. 200
- 18 Judice, V. A. J., Mexilhoeira.—Salt. 200
- 19 Jesus, Manuel Vicente de, Lisbon.—Pharmaceutical preparations. 200
- 20 Lezírias Co., Lisbon.—Salt. 200
- 21 Leite, Francisco de Paula, Alcacer do Sal.—Salt. 200
- 22 Lima, Guilherme A. E., Lisbon.—Pharmaceutical preparations. 200
- 23 Meirelles, Antonio Moreira de Souza, Faro.—Salt. 200
- 24 Miranda & Sons, Lisbon.—Salt. 200
- 25 Pires, Joao Luiz, Lisbon.—Salt. 200
- 26 Pedroza, Dellaria José Lopes, Figueira.—Salt. 200
- 27 Pires, Joao de Jesus, Lisbon.—Patent medicines. 200
- 28 Rei, Jose Joaquim, Lisbon.—Pharmaceutical preparations. 200
- 29 Salgueiro, Nuno Freire Dias, Oporto.—Pharmaceutical preparations. 200
- 30 Serzedello & Co., Lisbon.—Chemicals. 200
- 31 Silva, Silverio Augusto Pereira da, & Francisco Antonio, Marques de Moura, Aveiro.—Salt. 200
- 32 Schurmann, Adolpho, Lisbon.—Patent medicines. 200
- 33 Torlades, O'Neill, Setubal.—Salt. 200
- 35 Alcacer do Sal, Viscount d', Alcacer do Sal.—Salt. 200
- 36 Peres, Joaquim Manuel de Mattos, Evora.—Soaps. 201
- 37 Gueiroz, José Sequeira Pinto de, Vianna.—Orange-peel oil. 201
- 38 Navarro & Co., Beja.—Soap. 201
- 39 Tenorio, Francisco Domingues.—Soap. 201
- 40 Vieira, Agostinho José, Villa Nova de Gaia.—Soap. 201
- 41 Mello, Antonio José Teixeira, Lisbon.—Wax candles. 201
- 42 Esamoriz, Manuel Ferreira, Oporto.—Soaps. 201
- 43 Department of Public Works, Lisbon.
a Wax candles. 201
b Blacking. 202
- 44 Costa, Joaquim Soares da, Oporto.—Oils. 202
- 45 Burnay, Viuva de J. B. B., Lisbon.—Oils. 201
- 46 Administrative Board of Works for the artificial port of Ponta Delgada.—Building materials. 102
- 47 Ferreira da Silva, Agostinho, & Co.—Common and fancy soaps. 201
- 48 Board of Public Forests, Lisbon.—Turpentine, oil, and spirits. 202
- 49 Costa, Rodrigo de Campos, Soure.—Writing-ink. 202
- 50 Moedas, José, Moura.—Building materials. 102
- 50a Torres, Feliciano Luiz, Lisbon.—Paints and varnishes. 202
- 51 Mendona, Thomaz Antunes de, Lisbon.—Blue. 202
- 52 Souza Braga, Joar José, Oporto.—Writing-ink. 202
- 53 Domingo, Juan, Lisbon.—Wax matches. 204
- Porcelain, Ceramics—Pottery, Glass, etc.
- 54 Silva, Miguel da, Evora.—Pottery. 205

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

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- 56 Pimentao, Antonio Ayres.—Pottery. 206
- 57 Marcal, Joao Lopes, Evora.—Bricks, tiles, etc. 206
- 58 Oliveira Soares, M. de, Evora.—Bricks and tiles. 206
- 59 Mira, José Paulo de, Evora.—Tiles, bricks, etc. 206
- 60 Neuville, Luis, Lisbon.—Ceramics. 206
- 61 Joao, Antonio, Evora.—Ceramics. 206
- 62 Martins, Alberto Cypriano, Lisbon.—Pottery. 206
- 63 Coelho, Francisco, Torres Novas.
a Bricks. 206
b Tiles. 208
- 64 Alves Cunha, José, & Mendonça, Henriqueta S., Caldas da Rainha.—Ceramics. 206
- 65 Lamego, Antonio da Costa, Lisbon.
a Architectural pottery. 206
b Tiles. 208
c Earthenware and faience. 210
- 66 Almeida da Costa, Antonio d', & Co., Oporto.
a Architectural pottery. 206
b Tiles. 208
c Earthenware and stoneware. 210
- 67 Boim & Co., Ponta Delgada.
a Architectural pottery. 206
b Dutch tiles, plain and ornamented. 208
c Stone china. 210
- 68 Rio Junior, J. do, Oporto.—Dutch tiles. 208
- 69 Victoria, José Gonçalves, Aveiro.—Earthenware. 210
- 70 Scholfield, John Howarth, Lisbon.—Stoneware, faience, etc. 210
- 71 Marques, Pedro Antonio, Aviero.—Glazed earthenware. 210
- 72 Marques, Joao da Rosa, Entremoz.—Earthenware. 210
- 73 Manuel Leita Pereira & Bro., Ponta Delgada.—Glazed pottery. 210
- 74 Mafra, Manuel Cypriano Gomes, Caldas.—Ceramics (Caldas ware). 210
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Chemical Manufactures.

- | | |
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- 81 Ousta, Hussein, Dardanelles.—Terra-cotta vases, flower pots. 206

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- 83 Nicoforaki, Théophani, Canea, Crete.—Yellowware. 210

- 84 Mehemed, Hadji, Constantinople.—Earthenware coffee pot, boxes, cups and saucers, plates, spoons, pipe bowls, vases, etc. 210

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- 175 Hassan, Ousta, Angora.—Cotton thread. 230
- 176 Hassan Ali, Houdehida, Yiemen.—Cotton fabrics; curtains. 230
- 177 Hassan Chaban, Houdehida, Yiemen.—Cotton fabrics. 230
- 178 Hakim, Hadji, Bros., Aleppo.
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- 181 Beyroot, Government of, Syria.—Cotton fabrics. 230
- 182 Aleppo, Government of.—Cotton tissues. 230
- 183 Karraissalo, Government of, Adana.—Cotton thread. 230
- 184 Kerbella, Government of, Bagdad.—Cotton yarn. 230
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- 198 Abir Tarip, Aleppo.—Cotton fabric. 230
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- 200 Antoli, Miss Maidos, Dardanelles.—Spun cotton. 230
- 201 Aiché, Konaih.—Shirting. 230
- 202 Ayaza Oglou Ahmed, Kangre, Castamouni.—Cotton cloths. 230
- 203 Allahjadji Alop, Aleppo.—Cotton tissue. 230
- 204 Atidgé, Madame, Koniah.—Cotton cloth. 230
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- 206 Ahmed, Agha, Sivas, Sivas.
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- 208 Iskilechina, Crete, Crete.—Striped ticking. 231
- 209 Abdul Hahat, Mosul, Bagdad.
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- 211 Kachpi, Zoubid, Yiemen.—Printed calicoes. 232
- 212 Hana Meti, Mosul, Bagdad.—Printed calico. 232
- 213 Hartin, Adana, Adana.—Printed calico. 232
- 214 Ali Hadji, Koniah.—Printed calico. 232
- 215 Mahmoud Hadji, Aleppo.—Printed calicoes. 232
- 216 Chaban Hussein, Zoubid, Yiemen.
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- 217 Van, Government of, Erzeroum.
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- 219 Caba Oglou Mehemed, Gueugnek, Castamouni.—Printed calico. 232
- 220 Ahmed Ousta, Castamouni.—Printed calico. 232
- 221 Aghop, Sivas, Sivas.—Printed calicoes. 232
- 222 Ezinchian, Government of, Erzeroum.
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- 232 Musulmé, Madame, Koniah.—Table cloth. 233
- 233 Marquar, Trebizond.—Napkins and bathing apron. 233
- 234 Mourouk, Oglou Ohanès, Brousse.—Towels, napkins, bathing linen, etc. 233
- 235 Mehemed Effendi, Denizli, Aydin.—Linen, etc. 233
- 236 Mehemed Effendi, Smyrna.—Linen, napkins, divan cover, towels, bureau, sheeting, etc. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods.

- 237 Mehemed, Merzifoun, Sivas.—
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- 238 Mehemed Effendi, Kara-Sou, Aydin.—Bathing linen. ²³³
- 239 Mehemed Agha, Castamouni.—
Linen sheeting. ²³³
- 240 Ousta Mehemed, Koniah, Koniah.—Spun hemp and flax. ²³³
- 241 Kodan, Smyrna.—Bed covers. ²³³
- 242 Kamile, Madame, Tripoli, Syria.—
Towels. ²³³
- 243 Kicho Dimitri, Yanina.—Linen. ²³³
- 244 Karasch Oglou, Tokat, Sivas.—
Linen thread. ²³³
- 245 Karabet, Malatia, Diarbekir.—
Thread textile. ²³³
- 246 Ibrahim Agha, Brousse.—Bathing
towels, counterpane, etc. ²³³
- 247 Iskiladjan, Dellalé, Canea, Crete.—
Towels. ²³³
- 248 Harline, Merzifoun, Sivas.—Towels. ²³³
- 249 Hatna Gros, Mosul, Bagdad.—
Handkerchiefs. ²³³
- 250 Mehemed, Hadji, Tripoli, Tripoli.—
Linen coverlet. ²³³
- 251 Mohammed, Hadji, Malatia, Diarbekir.—Thread. ²³³
- 252 Cherisor, Government of, Bagdad.—Linen fabric. ²³³
- 253 Bigdè, Government of, Koniah.—
Spun hemp. ²³³
- 254 Damascus, Government of, Syria.—
Linen. ²³³
- 255 Smyrna, Government of.—Towels
and bed covers. ²³³
- 256 Volonia, Government of, Yanina.—
Linen. ²³³
- 257 Yanina, Government of.—Spun
hemp. ²³³
- 258 Gabriel, Sivas, Sivas.—Towels. ²³³
- 259 Faladj Imssi, Malatia, Diarbekir.—
Thread textile. ²³³
- 260 Dimitri, Yanina.—Shirting, pillow
cases, and divan cover. ²³³
- 261 Fatma, Madame, Koniah.—Linen. ²³³
- 262 Duran Effendi, Constantinople.—
Table cloth, cushion cover, etc. ²³³
- 263 Salé Agha, Madame, Koniah.—
Linen pillow case. ²³³
- 264 Dervich Oglou, Kokas, Brousse.—
Bathing linen, etc. ²³³
- 265 Cadir, Suleimanecyiah, Bagdad.—
Sheets. ²³³
- 266 Cazas, Thomas, Diarbekir.—
Twisted thread. ²³³
- 267 Buftam, Mosul, Bagdad.—Counterpane. ²³³
- 268 Ahmed Effendi, Madame, Canea, Crete.—Towels. ²³³
- 269 Ana, Madame, Mosul, Bagdad.—
Pillow case. ²³³
- 270 Aicha, Madame, Koniah.—Linen. ²³³
- 271 Azar Ogli, Tokat, Sivas.—Linen
cloth. ²³³
- 272 Abdul Kader, Koniah.—Table
cloth. ²³³
- 273 Ali Imi, Madame, Koniah.—Towels. ²³³
- Woven and Felted Goods of Wool, etc.
- 274 Zokopolani, Maria, Canea, Crete.—
Wool fabric. ²³⁵
- 275 Zaferebolo Orphan School, Zaferebolo, Castamouni.—Cloth for garments. ²³⁵
- 276 Vassil Postak, Salonica.—Cloth. ²³⁵
- 277 Youssoul Blouna, Aleppo.—Woolen
yarn. ²³⁴
- 279 Tasse Kochman, Berat, Yanina.—
Cloth. ²³⁵
- 280 Tathma, Trebizond.—Woolen fabrics. ²³⁵
- 281 Trentefil, Miss, Otoulouk, Adrianople.—Pants stuff. ²³⁵
- 282 Sahak Ousta, Angora.—Woolen
fabric. ²³⁵
- 283 Kamps, Oglou, Angora.—Woolen
fabric. ²³⁵
- 284 Ohannès Agha, Angora.
a Woolen fabrics. ²³⁵
b Carpet, tapestry. ²³⁹
- 285 Maripa Golopo, Canea, Crete.—
Striped yellow cloth. ²³⁵
- 286 Mollat Ahmed, Salonica.—Wool
fabric. ²³⁵
- 287 Moussé Kapsal, Yanina.—Woolen
fringe. ²³⁵
- 288 Moustapha, Tripoli, Tripoli.—Wool
yarn. ²³⁵
- 289 Mehemed Effendi, Boldan, Aydin.—
Cloth for garments. ²³⁵
- 290 Mehemed Effendi, Saroukhan, Aydin.—Cloth for garments. ²³⁵
- 291 Mehemed Ousta, Biledjekli, Brousse.—Furniture cloth. ²³⁵
- 292 Marie, Madame, Koniah.
a Woolen ribbon. ²³⁵
b Cushion carpet. ²³⁹
- 293 Mehemed, Hadji, Mousra, Castamouni.—Woolen fabric. ²³⁵
- 294 Mehemed Agha, Hadji, Bartia, Castamouni.—Woolen fabric. ²³⁵
- 295 Mahmouda, Hadji, Sivas, Sivas.—
Felts. ²³⁵
- 296 Erzeroum, Government of.—Woolen fabrics. ²³⁵
- 297 Kendi Oglou Trantchi, Islimia, Adrianople.—Woolen fabrics. ²³⁵
- 298 Usni, Hadji, Brousse.
a Felts. ²³⁵
b Felt blanket. ²³⁷
- 299 Constantinople, Government of.
a Cloths. ²³⁵
b Flannels. ²³⁶
c Woolen counterpanes. ²³⁷
d Carpet. ²³⁹
- 300 Nich, Government of, Danube.
a Woolen fabrics. ²³⁵
b Carpets. ²³⁹
- 301 Ineboli, Government of, Castamouni.—Woolen yarn. ²³⁵
- 302 Van, Government of, Erzeroum.
a Cloth for pants, woolen fabric. ²³⁵
b Carpets. ²³⁹
- 303 Bagdad, Government of.
a Woolen yarn and textiles. ²³⁵
b Goat-hair fabric. ²⁴⁰

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woolen Goods, Carpets.

- 304 Fevâk, Erzeroum.**—Woolen yarn. 235
305 Djamian, Gabriel, Kara-Hissar.—Woolen fabric. 235
306 Cheri Oglou Ahmed Agha, Kangre, Castamouni.
 a Woolen textile. 235
 b Angora wool yarn. 240
307 Cheri Oglou Ahmed Agha, Zafrem-bolo, Castamouni.—Woolen textiles. 235
308 Ahmed Agha, Madame, Mousra, Castamouni.—Woolen fabric. 235
309 Ahmed Ousta, Balat, Brousse.—Cloth. 235
310 Zaha, Mosul, Bagdad.
 a Shawls. 237
 b Carpet. 239
311 Tehezi Agha, Adrianople.—Blanket. 237
312 Sali Agha, Madame, Koniah.—Woolen bag. 237
313 Po o Yani, Kerénié, Yanina.—Woolen counterpane. 237
314 Ousta Ahmed, Cherisor, Bagdad.—Coverlet. 237
315 Ousta Mehemed, Suleimanéeyah, Bagdad.—Woolen coverlet. 237
316 Mekon, Kiron, Sivas.—Woolen shawls. 237
317 Mehulourt, Suleimanéeyah, Bagdad.—Counterpane. 237
318 Mosla Mahmoud, Diarbekir.—Woolen sheet. 237
319 Moustapha, Suleimanéeyah, Bagdad.—Coverlet. 237
320 Matros, Erzeroum.—Blanket. 237
321 Icrabima, Canea, Crete.—Woolen counterpane. 237
322 Marie, Gueuridjé, Monastir.—Woolen coverlet. 237
323 Cassim Bakar, Hadji, Tripoli, Tripoli.—Blankets and coverlets. 237
324 Kerénié, Government of, Yanina.—Woolen cover. 237
325 Mosul, Government of, Bagdad.—Shawls. 237
326 Cherifé, Madame, Koniah.—Blanket. 237
327 Abdoullah Oglou Hassan, Guengnek, Castamouni.—Woolen shawl. 237
328 Nicolaki, Yanina.—Organzine. 238
329 Minodoro, Sophia, Danube.—Woolen and silk fabric. 238
330 Oulmia, Hadji, Sophia, Danube.—Woolen and silk fabrics. 238
331 Dervich, Oglou Ko Kas, Brousse.—Mohair. 238
331a Deli Mourad, Diarbekir.—Various fabrics. 238
332 Casas, David, Yanina.—Organzine. 238
333 Yanaki Micholi, Prévézé, Yanina.—Carpet. 239
334 Yorgaki, Miss, Dardanelles.—Tapestry. 239
336 Said Effendi, Sivas, Sivas.—Carpets. 239
337 Rakinié, Madame, Koniah.—Prayer carpet. 239
338 Papa Giorki, Volonia, Yanina.—Carpet. 239
339 Rahimé, Madame, Halthah, Koniah.—Carpet. 239
340 Osman Agha, Sivas, Sivas.—Divan carpet. 239
341 Omer Agha, Sivas, Sivas.—Carpets. 239
342 Ohanna, Angora.—Carpet. 239
343 Manapola, Catherine, Sfakia, Crete.—Carpet. 239
344 Mourad Kasson, Ayvadjik, Dardanelles.—Carpet. 239
345 Mehemed Oglou Alichan, Turgosklou, Koniah.—Prayer and other carpets. 239
346 Mehemed Agha, Gabwva, Danube.—Carpet. 239
347 Mohamed, Hanari, Mecca.—Carpet. 239
348 Mehemed Kirkit, Tripoli, Tripoli.—Carpets. 239
349 Marie, Madame, Larik, Koniah.—Cushion carpet. 239
350 Karabet, Kangre, Castamouni.—Carpet. 239
351 Kerim, Suleimanéeyah, Bagdad.—Prayer carpet. 239
352 Ibrahim Effendi, Salonica.—Carpets. 239
353 Hussein Agha, Sivas, Sivas.—Divan carpet. 239
354 Hamparsoum, Sivas, Sivas.—Carpet. 239
355 Hassan, Hadji, Kircheré, Angora.—Carpet. 239
356 Mehemed, Hadji, Kircheré, Angora.—Carpet. 239
357 Tahera, Hadji, Volonia, Yanina.—Carpet. 239
358 Haicha Agha, Koniah.—Carpet. 239
359 Castamouni, Government of.—Carpet. 239
360 Semaré, Government of, Bagdad.—Carpet. 239
361 Rekanie, Government of, Aleppo.—Carpets. 239
362 Smyrna, Government of.—Carpets. 239
363 Prévézé, Government of, Yanina.—Carpet. 239
364 Oulé, Government of, Bagdad.—Carpets. 239
365 Bourd, Government of, Bagdad.—Carpet and prayer carpet. 239
366 Widin, Government of, Danube.—Carpet. 239
367 D'Andria, Lombard, & Co., Boston, Mass.—Smyrna carpets. 239
368 Chakir, Trebizond.—Carpet. 239
369 Chamdeion, Ohanès, Angora.—Carpet. 239
370 Chakir Agha, Ayvadjik, Dardanelles.—Carpet. 239
371 Chicho Zeko, Kerénié, Yanina.—Carpet. 239
372 Allatorini, Piaz, Adana.—Carpet. 239

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woolen and Silk Goods.

- 373 Bikè, Madame, Philippopolis, Adrianople.—Carpet. 239
- 374 Chaban Oglou, Mussein, Guengnek.—Carpet. 239
- 375 Ali Ani, Larik, Koniah.—Carpet. 239
- 376 Ali Agha, Ouchak, Brousse.—Divan carpet. 239
- 377 Ahmed Effendi, Sivas, Sivas.—Carpet. 239
- 378 Adret, Agha, Diarbekir.—Carpet. 239
- 379 Adver, Mardin, Diarbekir.—Carpet. 239
- 380 Abdoullah Effendi, Guelguen, Trebizond.—Woolen carpet. 239
- 381 Abdi Effendi, Sivas, Sivas.—Carpet. 239
- 382 Tchorbadjî Serkis, Marach, Aleppo.—Goat-hair bag. 240
- 383 Simon, Piseren, Monastir.—Goat-hair carpet. 240
- 384 Piseren, Government of, Monastir.—Goat-hair cloth. 240
- 385 Ludovic & Vallauri, Constantinople.—Table and bench covers. 241

Silk and Silk Fabrics.

- 386 Sukiasian, Adrianople. 242
a Raw silk. 242
b Japanese silk. 245
- 387 Schilizzi, E. F., Adrianople.—Raw silk. 242
- 388 Temio Petcha, Yenidjé, Danube.—Raw silk. 242
- 389 Temno Petcha, Yanina.—Raw silk. 242
- 390 Oustour, Piaz, Adana.—Silk. 242
- 391 Moustapha Effendi, Ayvadjik, Dardanelles.—Raw silk. 242
- 392 Mehamoud Dekiz, Hadji, Tripoli, Tripoli.—Raw silk. 242
- 393 Hassan, Cyprus. 242
a Silk. 242
b Silk fabrics. 245
c Silk handkerchief. 247
- 394 Hassan Effendi, Cyprus. 242
a Silk. 242
b Silk fabric and taffetas. 245
- 395 Zaferemboli, Government of, Castamouni.—Raw silk. 242
- 396 Bérat, Government of, Danube.—Raw silk. 242
- 397 Smyrna, Government of.—Raw silk. 242
- 398 Samos, Government of, Castamouni. 242
a Raw silk. 242
b Silk shirting. 245
c Silk lace and gauzes. 247
- 399 Bagdad, Government of. 242
a Raw silk. 242
b Foulards. 245
c Embroidered foulards, etc. 246
d Silk fichus, belt and sabretaches. 249
- 400 Demerdji Constantin, Madame, Candia, Crete.—Raw silk. 242
- 401 Andonafake, Anasthas, Canea, Crete.—Raw silk. 242
- 402 Antakia Caimakan, Antakia, Aleppo.—Raw silk. 242

- 403 Sayas Karabetli, Salonica.—Silk. 243
- 404 Sali Kamber, Ichkodra, Monastir. 243
a Silk twist, skeins, etc. 243
b Organzine. 245
c Silk garters. 247
d Silk cords, fringes, etc. 249
- 405 Kandilaphtaki Mehameda, Candia, Crete. 243
a Silk skeins. 243
b Organzine. 245
c Silk braid. 249
- 406 Yanina, Government of.—Silk. 243
- 407 Retchani, Government of, Yanina.—Silk. 243
- 408 Brousse, Government of.—Twisted silk. 243
- 409 Cazas, David, Yanina. 243
a Silk threads and twists. 243
b Silk buttons, ribbons, etc. 249
- 410 Ahmed Mehamoudik, Yanina, Bosnia.—Silk. 243
- 411 Mavrillis, Emanuel E. G., Brousse.—Silk. 244
- 412 Litolu Nakous Oglou, Aleppo.—Silk fabrics. 244
- 413 Yekahim, Hadji, Aleppo.—Embroidered silk and silver fabric. 244
- 414 Ilias, Hodja, Aleppo.—Embroidered silk fabrics. 244
- 415 Hakin Hacı Bros., Aleppo. 244
a Silk fabrics. 244
b Taffetas, satins, etc. 245
c Silk tissue. 247
- 416 Ineboli, Government of, Castamouni. 244
a Raw spun silk. 244
b Organzine. 245
- 417 Demitraki, Constantinople.—Silk fabrics. 244
- 418 Cazas, Thomas, Diarbekir. 244
a Silk twist. 244
b Silk belt. 247
c Ribbons. 248
d Silk buttons. 249
- 419 Schakal, Anton, Aleppo.—Cotton and silk tissue. 245
- 420 Seid Yayia, Damascus.—Silk fabric. 245
- 421 Thomas Isaac, Van, Erzeroum.—Silk foulard. 245
- 422 Tetoullah, Diarbekir.—Silk fabrics. 245
- 423 Tasse Kochman, Berat, Yanina.—Silk fabric. 245
- 444 Vidal, J. M., Constantinople.—Silk fabrics. 245
- 445 Seid Abdul Hamid, Damascus. 245
a Silk fabric, mixed cotton and silk fabrics. 245
b Silk scarf, coverlet, belt, and pillow case. 247
- 446 Pansein, Yanina.—Silk shirting. 245
- 447 Nessibo, Madame, Ichkodra, Monastir. 245
a Silk fabric. 245
b Lace. 247
- 448 Sebou, Nicolas, Damascus.—Silk fabrics. 245
- 449 Nakos, Mikail, Aleppo.—Silk fabrics; mixed cotton and silk fabrics. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk Goods.

450 Bolad, Nicolas, Damascus.		479 Eminé, Trebizond.	
a Silk fabrics, mixed cotton and silk fabrics.	245	a Tissue for shirting.	245
b Figured silk fabrics.	246	b Silk belt.	247
c Silk goods.	247	480 Deli Mourad, Diarbekir.	
d Silk cord.	249	a Silk fabric.	245
451 Mourad Agha, Brousse.		b Silk prayer carpet.	247
a Silk fabrics, foulards.	245	481 Chicho Zeka, Volonia, Yanina.—	
b Silk gauzes.	247	Silk fabric.	245
452 Moustapha Effendi, Brousse.—		482 Constanti Giorki, Berat, Yanina.—	
Organzine.	245	Silk fabrics.	245
453 Mourouk Oglou Ohanès, Brousse.		483 Birkor, Trebizond.—Colored	ties.
a Silk foulards.	245	fabrics.	245
b Silk gauzes.	247	484 Bezaz Effendi, Diarbekir.—Silk	
454 Mikali, Redjani, Yanina.—Silk		fabrics.	245
fabrics.	245	485 Atanach, Miss, Dardanelles.—Silk	
457 Kirkor, Mamour, Diarbekir.—Silk		sheet.	245
fabrics.	245	486 Ahmed Effendi, Mamour, Diar-	
458 Mallah Ahmed, Malech, Salonica.		bekir.—Silk fabric.	245
—Silk fabrics.	245	487 Abir Tarip, Aleppo.—Silk fabric.	
459 Metrouge, Berat, Yanina.—Silk			245
tissue.	245	488 Abbas Riza, Damascus.—Silk	
460 Kendi Oglou Trantchi, Adrianople.		fabric.	245
—Silk fabrics.	245	489 Alil Fakildin, Damascus.—Silk	
461 Talep, Hadji, Brousse.		fabric.	245
a Silk fabrics, saté, etc.	245	490 Abdul Hamid, Damascus.—Silk	
b Gauzes.	247	foulard.	245
463 Ibrahima, Cyprus.		491 Anagnosti, Yanina.—Silk fabric.	
a Silk fabric and mixed cotton and silk			245
fabric.	245	492 Anastassi, Yanina.—Silk shirting.	
b Silk handkerchief.	247		245
464 Youssouf, Hodja, Aleppo.—Silk and		493 Ana, Yania, Bosnia.—Silk and	
silver foulards.	245	cotton fabric.	245
465 Aghop, Hodja, Adrianople.		494 Nefissé, Madame, Ichkohra, Mon-	
a Organzine.	245	astir.	
b Ribbons.	248	a Embroidered foulards.	246
c Cord.	249	b Silk coverlet.	247
466 Thomas, Hodja, Diarbekir.—Silk		494a Elias Hatti, Hadji, Aleppo.—	
fabric.	245	Upholstery satins.	246
467 Thomas, Hadji, Malatia, Diar-		495 Mariöga, Constantinople.—Silk	
bekir.—Silk fabrics and foulards.	245	counterpane.	246
468 Heleni, Berat, Yanina.		496 Mehemed Emin, Constantinople.—	
a Silk fabric.	245	Upholstering fabrics.	246
b Silk gauze.	247	497 Matié, Lady, Adrianople.—Figured	
469 Hassan Ali, Houdehida, Yieman.		silk fabric.	246
a Silk and cotton fabrics.	245	498 Ludovic & Vallauri, Constantino-	
b Silk pillow case.	247	ple.—Upholstery and divan fabrics.	246
470 Hakim Bros., Aleppo.		499 Kadir Oglou Abdul Kader, Said	
a Silk and cotton mixed piqué, silk fabrics,		Ili, Koniah.—Divan cover.	246
etc.	245	500 Gueudjehan, Ohannès, Constanti-	
b Silk handkerchiefs and tissue.	247	nople.—Silk fabrics, taffeta, moreen, etc.	246
471 Gasko, Gaspard, Aleppo.—Cotton			246
and silk mixed fabric.	245	501 Constantinople, Government of.—	
472 Vassili, Piaz, Adana.—Silk cloth.		Silk curtain fabrics.	246
	245	502 Sagoundjaki, Lefteraki, Canea,	
473 Gascandil, Trebizond.		Crete.—Silk gauze.	247
a Silk tissue and coverlet.	245	503 Seid Alil, Damascus.—Silk goods.	
b Silk belt.	247		247
474 Aleppo, Government of.—Silk crape		504 Thomas, Diarbekir.	
tissue.	245	a Silk belt.	247
475 Amassia, Government of, Sivas.—		b Silk ribbons.	248
Silk fabrics for shirts and bed cover-		505 Taquoui, Madame, Adrianople.—	
ings.	245	Gauzes.	247
476 Gergi Melouk, Damascus.		506 Regnier, Yanina.—Gauze.	247
a Silk fabric.	245	507 Rechid Effendi, Damascus.—Silk	
b Silk coverlet.	247	lace.	247
477 Beyroot, Government of, Syria.		508 Omeraki, Ibrahima, Canea, Crete.	
a Silk fabrics, organzine, etc.	245	—Silk gauze.	247
b Silk laces, belts.	247	508 Nefasé, Madame, Tripoli, Syria.—	
c Ribbons.	248	Silk shirts	247
d Silk embroideries.	249	510 Nsmi Effendi, Madame, Candia,	
478 Karkali, Dimitri, Yanina.—Silk		Crete.—Silk gauze.	247
fabrics.	245		

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48

Silk Goods, Clothing.

- 511 Naoun Miltelete, Aleppo.—Silk and cotton and silk tissues. 247
- 512 Monnouk Ozlou, Brousse.—Silk fabric and aprons. 247
- 513 Moniré, Brousse.—Silk lace. 247
- 514 Milaki, Nicolaki, Melle, Canea, Crete.—Silk gauze. 247
- 515 Maroli, Kara Yanapola, Canea, Crete.—Silk crape. 247
- 516 Marouli, Madame Giorgi Sefaknaki, Candia, Crete.—Silk gauze. 247
- 517 Meuzeurlié Fathma, Candia, Crete.—Gauze. 247
- 518 Marie, Yanina.—Silk gauze. 247
- 519 Moussa Chaouch, Oglou Ibrahim, Canea, Crete.—Gauzes. 247
- 520 Ismail Agha, Hadj Brousse.—Silk counterpane. 247
- 521 Istiphanidja, Candia, Crete.—Silk gauze. 247
- 522 Kamil, Tripoli, Syria.—Embroidered gauze foulard and silk pillow cases. 247
- 523 Mahmoud Deguis, Hadji, Tripoli, Tripoli.—Silk coverlets. 247
- 524 Ismail Agha, Hadji, Candia, Crete.—Silk gauze. 247
- 525 Mikali, Hadji, Tripoli, Syria.—Silk coverlets. 247
- 527 Gotha, Tripoli, Tripoli.—Silk shirts. 247
- 528 Kara-Hissar, Government of, Sivas.—Silk belt. 247
- 529 Piseren, Government of, Monastir.—Silk caps. 247
- 530 Emzia, Ibrichindji Nicoli, Mme., Candia, Crete.—Gauze. 247
- 531 Dervich Oglou Kokas, Brousse.—Silk gauzes, silk burnous, scarf and belt. 247
- 532 Cazas Abdoullah, Damascus. 247
a Silk belts. 247
b Silk cords, etc. 249
- 533 Cazas Ahmed, Damascus.—Silk crocheted belt. 247
- 534 Ana, Madam, Mosul, Bagdad.—Silk lace. 247
- 535 Cazas Said, Tripoli, Syria.—Silk belts and suspenders. 247
- 536 Assibi, Madame, Koniah.—Silk lace. 247
- 537 Avadiz, Miss, Dardanelles.—Silk lace. 247
- 537a Makboubi, Trebizond.—Silk towels and shirting. 247
- 538 Isaac Effendi, Bello, Castamouni.—Silver ribbon. 248
- 539 Selim, Mosul, Bagdad.—Turban cord. 249
- 540 Sali Kamber, Piseren, Monastir.—Gold and silver filigree cord. 249
- 541 Idrissi Agha, Hadji, Bonandji, Adrianople.—Cord. 249
- Clothing, Jewelry, Ornaments; Traveling Equipments, etc.**
- 542 Zoardji Gocha, Yanina.—Goat-hair shepherd's vest. 250
- 543 Yani, Smyrna.—Men's suit. 250
- 544 Zahardji Gotcha, Yanina.—Vests. 250
- 545 Yani, Hadji, Berat, Yanina. 250
a Vests. 250
b Gaiters. 251
- 546 Yani, Forol, Trebizond. 250
a Woolen hose. 250
b Woolen gloves. 251
- 547 Vely Bey, Sivas, Sivas.—Woolen socks. 250
- 548 Seid Hassan, Mosul, Bagdad.—Turkish garment. 250
- 549 Simeon, Trebizond.—Ladies' trousers, jacket. 250
- 550 Seid Cherif, Aleppo.—Cotton belts. 250
- 551 Seid Abdul Hamid, Damascus. 250
a Cotton scarf. 250
b Embroidered cap and slippers. 251
c Tobacco pouch. 254
- 552 Raphaelian, Gabriel, Constantinople. 250
a Collars and cuffs. 250
b Crochet caps, slippers. 251
c Crochet fichu, curtains, etc. 252
- 553 Rinko, Permidi, Yanina.—Ladies' hose. 250
- 554 Palassé, Madame, Trebizond.—Gown. 250
- 555 Rina, Yanina.—Chemise, embroidered with gold. 250
- 556 Ousta Bachou, Forol, Trebizond.—Woolen hose. 250
- 557 Ousta Yano, Bonandji, Adrianople.—Woolen hose. 250
- 558 Ousta Yani, Miss, Bonandji, Adrianople.—Men's woolen hose. 250
- 559 Nogho, Uskup, Monastir.—Woolen apron and stockings. 250
- 560 Moustapha Agha, Damascus.—Woolen garment. 250
- 561 Moustapha, Miss, Balekoi, Dardanelles.—Bridal trousseau. 250
- 562 Moussa Chaouch Oglou Ibrahim, Canea, Crete. 250
a Silk embroidered shirt, etc. 250
b Tobacco pouch. 254
- 563 Mahmoud Agha Djiri, Damascus.—Turkish garments. 250
- 564 Mehemed Abdul Hamid, Houdehida, Yemen.—Drawers. 250
- 565 Mehemed Ousta, Koniah.—Goat-hair jacket. 250
- 566 Mikahil Seboul, Damascus.—Turkish garments. 250
- 567 Lambroun, Phrasine, Yanina.—Chemise. 250
- 568 Mer Allah, Zoubid, Yemen.—Percale shirt. 250
- 569 Mitscheré, Marie, Yanina.—Men's and women's hose. 250
- 570 Mikahil Agha, Adrianople.—Jacket. 250
- 571 Karabet, Yangre, Castamouni.—Cloak belt. 250
- 572 Kurschu Casmad, Diarbekir.—Wolf-skin jacket. 250
- 573 Isaac, Mosul, Bagdad.—Turkish garment. 250
- 574 Ibrahim Agha, Brousse.—Bathing suit, woolen burnous. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Clothing, Fancy Articles.

- 575 Osman, Hadji, Koniah.—Turkish woolen belt. 250
- 576 Hadji, Trebizond.—Ladies' trousers, vest. 250
- 577 Ahmed, Hadji, Aleppo.—Turkish belt. 250
- 578 Hakim Bros., Hadji, Aleppo.—Silk, burnous, and other garments. 250
- 579 Mikahili, Hadji, Adrianople.—Woolen garments. 250
- 580 Osman, Hadji, Suleimanceyah, Bagdad.—Shepherd's cloak. 250
- 581 Hassan, Cyprus.—Silk underskirt. 250
- 582 Hussien Chaban, Zoubia, Ziemen.—Cotton jacket, Turkish belt. 250
- 583 Hassan Agha, Trebizond.—Turkish trousers and vest. 250
- 584 Hassan Effendi, Kotchettissar, Castamouni.—Woolen belts. 250
- 585 Haler Oglou Hassan, Kara Baitar.—Woolen hose. 250
- 586 Haler Oglou Hassan, Koniah.—Woolen hose. 250
- 587 Haidar, Mosul, Bagdad.—Turkish garment. 250
- 588 Haido, Bagdad.—Turkish garment. 250
- 589 Haldji Oulmia, Sophia, Danube.
a Turkish belts. 250
b Woolen gloves, mittens. 251
c Necktie, etc. 254
- 590 Helene, Miss, Bonandji, Adrianople.—Waterproof cloak. 250
- 591 Asco, Giorgio, Yanina.—Vest. 250
- 592 Heleni, Permidi, Yanina.
a Ladies' hose. 250
b Gold embroidered fichu. 252
- 593 Giorki, Miss, Bonandji, Adrianople.—Woolen hose. 250
- 594 Damascus, Government of, Syria.—Woolen hose. 250
- 595 Bourd, Government of, Bagdad.—Stockings. 250
- 596 Ohannes Agha, Angora.
a Woolen and cotton hose. 250
b Head-dress ornament, belt. 254
- 597 Mentefek, Government of, Bagdad.—Turkish garment. 250
- 598 Kara-Hissar, Government of, Sivas.—Belts. 250
- 599 Semaré, Government of, Bagdad.—Veils, Turkish garment. 250
- 600 Nedjap, Government of, Bagdad.—Turkish garments. 250
- 601 Van, Government of, Erzeroum.—Woolen belt. 250
- 601*a* Uskup, Government of, Monastir.—Woolen stockings. 250
- 602 Ezinchin, Government of, Erzeroum.—Turkish belt, woolen trousers. 250
- 603 Piseren, Government of, Monastir.—Turkish belt, lisle thread hose. 250
- 604 Gotha, Tripoli, Tripoli.
a Embroidered silk vest. 250
b Woman's hat. 251
- 605 Fatma, Madame, Koniah.
a Woolen hose. 250
b Purse. 254
- 606 Elvadj Youssouf, Diarbekir.—Vest. 250
- 607 Erza Yaco, Yanina.—Albanian skirt. 250
- 608 Eminé, Trebizond.—Silk shirt. 250
- 609 Diptou Noutoukdji, Damascus.—Woolen belt. 250
- 610 Delepnté, Koniah.—Woolen stockings. 250
- 611 Despot, Yanina.—Women's hose. 250
- 612 Delal Mehemed, Diarbekir.—Cloak. 250
- 613 Dervichian, Smyrna.
a Shirt. 250
b Embroidered belt, silk lace. 252
c Ladies' cuffs and collars, necktie and cushion. 254
- 614 Casas David Elias, Permidi, Yanina.
a Hosiery. 250
b Cotton cap. 251
c Cotton ribbons, and buttons. 252
d Purse, garters. 254
- 615 Christo, Daughter of, Bonandji, Adrianople.—Waterproof. 250
- 616 Christo, Bonandji, Adrianople.—Turkish garments. 250
- 617 Casas Said, Tripoli, Syria.—Belt. 250
- 618 Cheik Moussa, Mardin, Diarbekir.—Arabian garment. 250
- 619 Constanti, Miss, Stankeny, Dardanelles.—Socks. 250
- 620 Chavirdi Hadji, Ourpha, Aleppo.—Vests. 250
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940 Delimé, Suleimanceyah, Bagdad.—
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941 Dip Notutchu, Damascus.—Wool-
en bridle, pistol holders, cartridge box. 296

942 Bagdad, Government of.—Reins
and stirrups. 296

943 Constantinople, Government of.—
Cavalry saddle and harness. 296

944 Ibrahim, Oglou Ali, Koniah.—
Woolen knapsack. 296

945 Maktés, Heron, Ourpha, Aleppo.—
Saddle cloth. 296

946 Mehemed, Larik, Koniah.—Saddle
cloth. 296

946a Moustapha, Omer, Koniah.—
Woolen halter. 296

947 Moustapha, Mosul, Bagdad.—Sad-
dle cloths. 296

948 Osman Effendi, Broussa.—Girth.
296

949 Ousta Mehemed Tournous, Tripo-
li, Tripoli.—Saddle and harness. 296

950 Sarak, Salif, Damascus.—Pack
saddles of tiger skin. 296

951 Sarradj, Moustapha, Marach, Alep-
po.—Saddle girth and stirrups. 296

952 Tanasse, Yanina, Yanina.—Stir-
rups. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-

Arboriculture and Forest Products.

Agriculture, Arboriculture, and Forest Products.	
953 Noury Bey, Darendé, Sivas.—Sumac.	600
954 Kara-Hissar, Government of, Sivas.—Sumac leaves.	600
955 Dofat & Co., Pargua, Yanina.—Acorn cups.	600
956 Chakir Agha, Ayvadjik, Dardanelles.—Acorn cups.	600
957 Cadi Kazi Agha, Caraman.—Sumac berries.	600
958 Ali Agha, Kangre, Castamouni.—Sorbus (tree).	600
959 Avadjan, Savas, Savas.—Aloe wood.	600
960 Massoudjou, Diarbekir.	
a Bark of the pomegranate tree.	600
b Gall-nuts, acorn cups, madder.	602
c Vegetable gum.	603
d Juniper berries and asphodele seed.	605
961 Schit Mohammed, Sparthe, Koniah.—Gall-nuts.	602
962 Ali Oglou Mehemed, Koniah, Koniah.—Gall-nuts.	602
963 Ziadji Oglou Bolis, Diarbekir.	
a Sumac leaves.	602
b Excrescence of an oak tree, etc.	604
964 Taraiche Metre, Monastir, Monastir.—Madder.	602
965 Pano Mamatti, Prévèzè, Yanina.—Gall-nuts.	602
966 Petro, Volonia, Yanina.—Gall-nuts.	602
967 Djourbachi, Nicolas, Imbros, Dardanelles.—Madder root.	602
968 Moustapha Effendi, Koniah, Koniah.—Madder.	602
969 Mosul, Government of, Bagdad.	
a Madder root.	602
b Excrescence of an oak.	604
c Yellow seeds.	605
970 Ilias Téné, Aleppo.—Madder.	602
971 Ahmed, Hadji, Tripoli, Tripoli.—Saffron.	602
972 Moustapha, Hadji, Tripoli, Tripoli.—Galls for tanning.	602
973 Bougali, Hadji Ali, Tripoli, Tripoli.—Henna leaves.	602
974 Mehemet Agha, Hadji, Angora.—Acorn cups, gall-nuts, sumac leaves.	602
975 Charade, Hadji Ali, Tripoli, Tripoli.—Madder.	602
976 Moustapha, Hadji, Aleppo.	
a Gall-nuts, madder.	602
b Pitch, vegetable gum.	603
977 Cherishor, Government of, Bagdad.—Henna gum and leaves.	602
978 Bigdè, Government of, Koniah.	
a Madder root.	602
b Vegetable gum.	603
c Yellow seeds.	605
979 Adrianople, Government of.—Gall-nuts.	602
980 Damascus, Government of, Syria.	
a Gall-nut, sumac, and madder root.	602
b Basson gum.	603
981 Eresena, Government of, Crete.—Pine tree bark.	602
982 Zaferampolo, Government of, Castamouni.—Saffron.	602
983 Mihalgazi, Government of, Castamouni.—Sumac leaves.	602
984 Kara-Issali, Government of, Adana.	
a Sumac leaves.	602
b Mastic tree resin.	603
985 Isklip, Government of, Castamouni.	
a Scammony.	602
b Yellow seeds.	605
986 Adana, Government of.	
a Gall-nuts, etc.	602
b Adragante seed.	605
987 Sulcimaneeayah, Government of, Bagdad.	
a Galls, gall-nuts, etc.	602
b Vegetable gum.	603
c Yellow seeds.	605
988 Saroukhan, Government of, Aydin.—Gall-nuts.	602
989 Smyrna, Government of, Aydin.	
a Pine tree bark.	602
b Pitch.	603
c Dolique seed.	605
990 Retimo, Government of, Crete.—Gall-nuts.	602
991 Abdourahman Effendi, Kangre, Castamouni.	
a Gall-nuts.	602
b Yellow seed.	605
992 Artin Effendi, Adana, Adana.—Madder root.	602
993 Ali Effendi, Angora.	
a Madder.	602
b Yellow and black pitch.	603
994 Oghan, Sivas, Sivas.—Black pitch and tar.	603
995 Sulciman, Ichkodra, Monastir.—Pitch.	602
996 Nicolaki, Jovan Oglou, Bairamich, Dardanelles.—Resin.	603
997 Maktis, Diarbekir.—Manna.	603
998 Mahmoud Katlani, Aleppo.—Pitch.	605
999 Moustapha, Ahmed Oglou, Bairamich, Dardanelles.—Pitch.	603
1000 Las Osman, Kangre, Castamouni.—Adragante gum.	603
1001 Kouyoun Oglou, Andoni, Angora.—Opium and adragante gum.	603
1002 Ismail, Cherishor, Bagdad.—Vegetable gum.	603
1003 Ilias Manou, Aleppo.—Pine resin.	603
1004 Erzeroum, Government of.—Pitch.	603
1005 Sfakia, Government of, Crete.—Vegetable pitch, resin.	603
1006 Yldis-III, Government of, Sivas.—White pitch.	603
1007 Merssine, Government of, Adana.—Yellow pitch.	603
1008 Volonia, Government of, Yanina.—Pitch.	603
1009 Akhati, Giorki, Aleppo.—Apricot tree gum.	603
1010 Toutous, Government of, Sivas.—Vegetable gums.	603

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Arboriculture, Pomology, Agricultural Products.

- 1011 Samos, Government of.**
a Resin. 603
b Carob bean. 605
1012 Central Drug-store, della Sudda's,
 Broussa.—Scammony resin. 603
1013 Yconomidés, Antonio, Canea, Crete.—Mastic. 603
1014 Ahmed, Agha, Alada, Koniah.
 —Resin. 603
1015 Ahmed, Agha, Koniah, Koniah.
 —Vegetable and purified pitch. 603
1016 Mehemed Galz Effendi, Damascus.—Marshmallow. 604
1018 Théophani, Nicoforaki, Canea, Crete.—Sweet almonds; seeds. 605
1019 Stiraki, Marinaki, Canea, Crete.
 —Sweet almonds. 605
1020 Over, Agha, Malalio, Diarbekir.
 —Pistachio-nuts. 605
1021 Latzindaki, Nicoli, Canea, Crete.
 —Sweet almonds. 605
1022 Missa Yian, Diarbekir.—Yellow seeds. 605
1023 Moustapha, Bandjak, Adana.
 —Palma-christi seed. 605
1025 Mehemed Rechio, Diarbekir.
 —Batones, a species of pistachio-nuts. 605
1026 Mehemed Ousta, Koniah, Koniah.
 —Yellow seeds. 605
1027 Karabet, Kangre, Castamouni.
 —Yellow seeds. 605
1028 Latzindaki, Hadji Yorghis, Canea, Crete.—Sweet almonds. 605
1029 Ali Bekir, Hadji, Sarret, Diarbekir.
 —Batones, species of pistachio-nuts; hazel-nuts. 605
1030 Aleppo, Government of.—Yellow Avignon seed. 605
1031 Esiné, Government of, Dardanelles.—Gall-nuts. 605
1032 Fokat, Government of, Sivas.
 —Avignon seed. 605
1033 Houran, Government of, Syria.
 —Asphodele seed. 605
1034 Chagir, Agha, Canea, Crete.
 —Sweet almonds. 605
1035 Bolesse, Diarbekir.—Yellow seeds. 605
1036 Ali Ani, Sullé, Koniah.—Yellow seed. 605
1037 Ali Baba, Aleppo.—Pine seeds. 605
- Pomology.**
- 1038 Ali Bekir, Hadji, Sarret, Diarbekir.**—Crab apples. 610
1039 Carnic Ali Agha, Kangre, Castamouni.—Corinth grapes. 610
1040 Feefik, Mamor, Diarbekir.—Cherries. 610
1041 Seid, Hadji, Koniah, Koniah.
 —Corinth grapes. 610
1042 Over Agha, Malatio, Diarbekir.
 —Grapes. 610
1043 Abdoullah, Aleppo.—Almonds. 611
1044 Abdourahman, Aleppo.—Hazel and pistachio nuts. 611
1045 Austagan, Adrianople.—Gombo fruit. 611
1046 Djemal Ali, Sarret, Diarbekir.
 —Dried figs. 611
1046a Yanacoli, Canea, Crete.—Sweet almonds. 611
- 1047 Amassia, Government of, Sivas.**
 —Nuts. 611
1048 Retimo, Government of, Crete.
 —Salted olives. 611
1049 Cattari Giorki, Yanina, Yanina.
 —Olives. 611
1050 Tschataldja, Government of, Yanina.
 —Green olives. 611
1051 Ichel, Government of, Adana.
 —Olives. 611
1052 Medina, Government of, Hidjaz.
 —Dates. 611
1053 Samos, Government of.—Olives, almonds, and raisins. 611
1054 Prévèze, Government of, Yanina.
 —Cedras, a sort of lemon. 611
1055 Churadé, Hadji Ali, Tripoli, Tripoli.
 —Raisins. 611
1056 Kemer Kirkor, Mamor, Diarbekir.
 —Dried almonds. 611
1057 Youssouf, Aleppo.—Jujube. 611
1058 Chaouch, Moustapha, Ayvadik, Dardanelles.—Olives. 611
1059 Mehemed Effendi, Dardanelles, Dardanelles.—Almonds and nuts. 611
1060 Djodie, Mehemed, Tripoli, Tripoli.
 —Dates. 611
1061 Petro, Berat, Yanina.—Almonds and nuts. 611
1062 Seid Hussa, Mardin, Diarbekir.
 —Mahaleb. 611
1063 Salomon, Salonica.—Olives. 611
1064 Smyrna, Government of, Aydin.
 —Almonds, olives. 611
- Agricultural Products.**
- 1065 Topchin Mulasin, Koniah, Koniah.**
a Oats. 620
b Flaxseed. 624
1066 Toran Costa, Philippopolis, Adrianople.
a Wheat, rye, maize, barley, rice, and millet. 620
b Vetch. 621
1067 Youssouf, Diarbekir.
a Cereals: wheat, barley, and millet. 620
b Gray peas. 621
c Kuchéné seed. 624
1068 Abdi Agha, Prévèze, Yanina.
 —Oats. 620
1069 Ab-del Kader Kourou Atché, Adana.—Sesame. 620
1070 Abdourahman, Aleppo.
a White sorghum. 620
b Lentils, gray peas. 621
c Dolique seed. 624
1071 Ahmed, Tchataldja, Yanina.
 —Barley. 620
1072 Banouch Agha, Permidé, Yanina.
 —Wheat. 620
1073 Christo, Yanina, Yanina.
a Wheat, barley, rye, oats, maize, and millet. 620
b Lentils, green peas. 621
c Dolique seed. 624
1074 Christo, Volonia, Yanina.—Barley. 624
1075 Christo, Prévèze, Yanina.—Barley. 624

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27

Agricultural Products.

- 1076 Ahmed, Chaouch, Cus-Kuri, Dardanelles.—Oats. 620
- 1077 Dibra Gaza, Aleppo.
a Rice. 620
b Asphodele and liquorice root. 622
- 1078 Emin Agha, Constantinople.
a Wheat, maize, oats, sesame, millet, spelt, etc. 620
b Lentils, vetch, and grach. 621
c Flaxseed. 624
- 1079 Ferssouz, Adana, Adana.—Wheat. 620
- 1080 Fodolali, Nazif Agha, Candia, Crete.—Barley. 620
- 1081 Giorki, Antaki, Aleppo.—Sesame. 620
- 1082 Giorki, Volonia, Yanina.
a Rice. 620
b Kidney beans. 621
- 1083 Aydin, Government of.
a Wheat, barley. 620
b Liquorice root. 622
- 1084 Berat, Government of, Yanina.
a Maize. 620
b Tobacco. 623
- 1085 Cherishor, Government of, Bagdad.—Rice. 620
- 1086 Damascus, Government of, Syria.
a Wheat, maize, barley, white sorghum, etc. 620
b Vetch and gray peas. 621
c Anise and coriander seed. 623
d Beet root, fennel, and hemp seed. 624
- 1087 Diarbekir, Government of.—Wheat. 620
- 1088 Erzeroum, Government of.
a Wheat, rye, and barley. 620
b Flaxseed. 624
- 1089 Houran, Government of, Syria.—Sesame. 620
- 1090 Kara-Hissar, Government of, Sivas.
a Wheat and barley. 620
b Gray peas, kidney beans, lentils. 621
- 1091 Kerbella, Government of, Bagdad.
a Rice, millet, sesame, barley, wheat, white sorghum. 620
b Lentils, beans, masch (vegetable). 621
c Dolique seed. 624
- 1092 Medina, Government of, Hidjaz.—Wheat and barley. 620
- 1093 Mentefek, Government of, Bagdad.
a Wheat, millet, and rice. 620
b Beans, masch. 621
c Dolique seed. 624
- 1094 Mosul, Government of, Bagdad.
a Maize. 620
b Peas. 621
c Coriander. 623
d Flaxseed. 624
- 1095 Serfiché, Government of, Monastir.—Wheat, rye, barley, and maize. 620
- 1096 Smyrna, Government of, Aydin.
a Wheat, maize, evrier, millet, sesame, white sorghum. 620
b Peas and beans. 621
c Fennel, cumin. 624
- 1097 Suleimaneeyah, Government of, Bagdad.
a Barley, millet, and rice. 620
b Vetch and beans. 621
- 1098 Tahif, Government of, Hidjaz.—White and red sorghum, millet, wheat, and barley. 620
- 1099 Tootchana, Government of, Monastir.—Rice. 620
- 1100 Toutous, Government of, Sivas.
a Cereals. 620
b Chick-peas. 621
c Radish and flaxseed. 624
- 1101 Uskup, Government of, Monastir.
a Wheat and rye. 620
b Leaf tobacco. 623
- 1102 Volonia, Government of, Yanina.—Maize. 620
- 1103 Ali Agha, Hadji, Koniah, Koniah.—Wheat. 620
- 1104 Ali Agha, Hadji, Kangre, Castamouni.
a Millet. 620
b Cumin. 623
- 1105 Ali, Hadji, Koniah, Koniah.—Wheat. 620
- 1106 Ali Bou Allia, Hadji, Tripoli, Tripoli.
a Wheat, barley, maize. 620
b Lentils and beans. 621
c Coriander and cumin. 623
- 1107 Ali Bougal, Hadji, Tripoli, Tripoli.
a Millet. 620
b Sorghum seed. 624
- 1108 Bekir Effendi, Hadji, Adana, Adana.—Barley and millet. 620
- 1109 Esseid Effendi, Hadji, Koniah, Koniah.—Wheat. 620
- 1110 Ismail, Hadji, Koniah, Koniah.—Wheat. 620
- 1111 Ismail, Hadji, Cus-Kuri, Dardanelles.—Barley. 620
- 1112 Moustapha Agha, Hadji, Adana, Adana.—Gray peas. 621
- 1113 Sali, Hadji, Anabon, Monastir.—Wheat and maize. 620
- 1114 Weisser, Hadji, Dardanelles, Dardanelles.—Evrier, a cereal. 620
- 1115 Hassan Agha, Koniah, Koniah.—Wheat. 620
- 1116 Hussein, Aleppo.—Maize. 620
- 1117 Ismail Agha, Abdi Tolli, Koniah.
a Black barley. 620
b Radish seed. 624
- 1118 Ismail, Tchataldja, Yanina.—Wheat. 620
- 1119 Ismail Effendi, Candia, Crete.—Barley. 620
- 1120 Kavilian, Stépan, Sivas.—Wheat. 620
- 1121 Kutchuk Ali Agha, Dardanelles, Dardanelles.—Wheat. 620
- 1122 Manoli, Boyadjaki, Candia, Crete.—Barley. 620
- 1123 Mehemed Effendi, Dardanelles, Dardanelles.—Indian corn, sesame. 620
- 1124 Mehemed, Cus-Kuri, Dardanelles.—Rye. 620
- 1125 Merdik, Mardin, Diarbekir.—Sesame. 620
- 1126 Moussin Oglou Seid, Koniah, Koniah.
a Barley. 620
b Gray peas. 621
- 1127 Mourazédé, Aleppo.—Unhulled rice. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-48

Agricultural Products.

- 1128 Moussa Oglou Veli, Alada, Koniah. 620
Rye.
- 1129 Moussin Effendi, Koniah, Koniah. 620
—Evrier, a cereal.
- 1130 Moustapha Effendi, Cherkech, 620
Castanouni.—Wheat and barley.
- 1131 Moustapha, Agha, Canca, Crete.— 620
Barley.
- 1132 Nougai Baitimour, Adana, Ada- 620
na.—Millet.
- 1133 Ohannes, Aleppo.—Wheat and 620
barley.
- 1134 Olah Artin, Adana, Adana.—Oats. 620
- 1135 Oudjou Christo, Yanina, Yanina. 620
—White sorghum.
- 1136 Pachistizzi, Volonia, Yanina.— 620
Maize.
- 1137 Petro, Bérat, Yanina.—Rice and 620
oats.
- 1138 Portocalaki, Moustapha Agha, 620
Candia, Crete.—Wheat.
- 1139 Salbè, Diarbekir.—Rice, hulled 620
and unhulled.
- 1140 Salih, Ichkodra, Monastir. 620
a Barley, rye, oats, wheat, and maize. 620
b Beans. 621
c Flaxseed. 624
- 1141 Salomon, Salonica.—Wheat, rye, 620
oats, barley.
- 1142 Seid Chaban, Zubei, Yemen. 620
a Maize, millet, and red, white, and yellow 620
sorghum.
- 621
b Lentils.
- 624
c Dolique and indigo-plant seeds.
- 1143 Seid Mehemed Agha, Angora. 620
a Wheat, barley, etc. 620
b Beans, peas, lentils. 621
c Coriander. 623
- 1144 Théophani, Nicoforaki, Canca, 620
Crete.
- 620
a Wheat, barley, Indian corn, oats.
- 621
b Gray peas, vetch, beans, parsnip, celery, 621
mühhie.
- 623
c Leaf tobacco, mustard.
- 1145 Houllé, Government of, Bagdad.— 621
Lentils, vetch, and beans.
- 1146 Kara Issalé, Government of, 621
Adana.
- 623
a Sage.
- 1147 Samos, Government of. 621
a Vetch. 621
b Anise seed. 624
- 1148 Saroukhan, Government of, Aydin. 621
a Lentils. 621
b Madder root. 622
c Mustard seed. 624
- 1149 Mehemed, Hadji, Diarbekir.— 621
Roast peas.
- 1150 Isaac, Hodja, Aleppo.—Lentils, 621
peas, and maschi.
- 1151 Ismail Agha, Koniah, Koniah.— 621
Vetch.
- 1152 Mehemed Ali Agha, Saradjik, 621
Dardanelles.—Beans, gray peas.
- 1153 Ahmed, Erzeroum.—Lentils, kid- 621
ney beans, and peas.
- 1154 Aghoba, Kingnessa, Adana.— 621
Lentils.
- 1155 Ali Ousta, Koniah, Koniah.—Kid- 621
ney beans.
- 1156 Charchou Akassi, Diarbekir.— 621
Lentils.
- 1157 Christo, Palatnos, Yanina.— 621
Beans.
- 1158 Kachomia, Christo, Tdomane, 621
Yanina.—Kidney beans.
- 1159 Diaba, Heudeurlé, Adana.—Kid- 621
ney beans.
- 1160 Giorki, Aleppo. 621
a Vetch. 621
b Kuchéné seed. 624
- 1161 Mehemed Seid, Angora. 621
a Kidney beans. 621
b Cumin. 623
- 1162 Molah Ahmed, Adana, Adana.— 621
Beans.
- 1163 Sidmaki, Sfakia, Crete.—Dried 621
beans.
- 1164 Fetou, Aleppo.—Kidney beans. 621
- 1165 Yorghanothaki, Sfakia, Crete.— 621
Vetch.
- 1166 Valah, Vandiria, Sfakia, Crete.— 621
Lentils.
- 1167 Youssouf Mamor, Diarbekir.— 621
Kidney beans.
- 1168 Youssouf Manoc, Aleppo.—Beans. 621
- 1169 Akhati, Giorki, Aleppo.—Soap- 622
wort root.
- 1170 Moustapha, Hadji, Marach, 622
Aleppo.—Scammony.
- 1171 Hazrou, Aleppo.—Coriander seed. 623
- 1172 Imperial Administration, Con- 623
stantinople.—Tobacco.
- 1173 Kandi Bros., Erguiré, Yanina.— 623
Snuff.
- 1174 Mehemed, Koniah, Koniah.—Cu- 623
min.
- 1175 Nassou Tarrouchan, Ichkodra, 623
Monastir.—Leaf tobacco.
- 1176 Omer Oglou Kassan, Tchan, Dar- 623
danelles.—Leaf tobacco.
- 1177 Rahimin David, Tripoli, Tripoli. 623
—Cumin.
- 1178 Ramazan, Effendi, Smyrna, Ay- 623
din.—Tobacco.
- 1179 Abil, Aleppo.—Snuff. 623
- 1180 Djourbachi, Antolu, Dardanelles, 623
Dardanelles.—Cumin and anise.
- 1181 Bedros, Antoine, Philadelphia, 623
Pa.—Turkish tobacco.
- 1182 Bekir Bey, Marach, Aleppo.— 623
Scammony root.
- 1183 Costanti, Aydonat, Yanina.— 623
Snuff.
- 1184 Aleppo, Government of.—Tobac- 623
co.
- 1185 Amassia, Government of, Sivas.— 623
Tobacco.
- 1186 Kenidje, Government of, Salonica. 623
—Tobacco.
- 1187 Haskanorich Ali, Korimdja, Bos- 623
nia.—Tobacco.
- 1188 Manoli Calergui, Papa, Canca, 623
Crete.—Leaf tobacco.
- 1189 Takssim Effendi, Tchataldja, Ya- 623
nina.—Tobacco.
- 1190 Tokatlou, Trebizond.—Leaf 623
bacco.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27

Agricultural, Animal, and Vegetable Products.

- 1191 Yani, Oglou Andin, Angora, Angora.—Tobacco. 623
 1192 Yousseuf, Chaouch, Nardat, Yanina.—Tobacco. 623
 1193 Yousseuf, Chaouch, Tchataldja, Yanina.—Tobacco. 623
 1194 Manouk, Yousseuf, Aleppo.—Tobacco. 623
 1195 Kayod, Hussein, Mardin, Diarbekir.—Fennel seed. 624
 1196 Moustapha Effendi, Koniah, Koniah.—Hemp seed. 624
 1197 Kouyoun Oglou, Andonie.—Seed. 624
 1198 Yousseuf, Hadji, Diarbekir.—Palma-christi seeds. 624
 1199 Kazikli, Government of, Aydin.—Anise seed. 624
 1200 Cus-Kuri, Government of, Dardanelles.—Dolique seed. 624
 1201 DjbraGaza, Aleppo.—Fennel seed and cumin. 624
 1202 Ali Bin Mehemed, Tripoli, Tripoli.—Lucern seed. 624
 1203 Yousseuf, Aleppo.—Hemp, palma-christi, mekineche, melon, and watermelon seeds. 624
 1204 Tarai, Djemetré, Bokeva, Monastir.—Flax and hemp seed. 624
 1205 Maneza, Government of, Aydin.—Flaxseed. 624
 1206 Adana, Government of.—Dolique seed. 624

Land Animals.

- 1207 Mazloum Aghiah, Constantinople.—Insects. 638

Water Animals, Fish Culture and Apparatus.

- 1208 Ali Zotte, Volonia, Yanina.—Coral. 645

Animal and Vegetable Products.

- 1209 Lachite, Government of, Crete.—Sponges. 650
 1210 Themeli, N., New York, N. Y.—Sponges. 650
 1211 Mansour, Hadji, Tripoli, Tripoli.—Sponges. 650
 1212 Djidé, Government of, Hidjaz.—Sponges. 650
 1213 Gallinos, Rhodes, Dardanelles.—Sponges. 650
 1214 Théophani, Nicoforaki, Canea, Crete.
 a Cheese. 651
 b Leather and skins. 652
 c Honey. 654
 d Dried cherries. 656
 1215 Minassian Miguérdji, Tokat, Sivas.—Cheese. 651
 1216 Markora, Salonica.—Cheese. 651
 1217 Mikahi Agha, Adrianople.—Lamb skins. 652
 1218 Mikaél, Kotchissar, Castamouni.—Beaver skin. 652
 1219 Mehameda, Dardanelles.—Morocco. 652

- 1220 Starri, Oglou, Kotchissar, Castamouni.—Marten skin. 652
 1221 Nichan, Sivas, Sivas.—Skins. 652
 1222 Nely, Ali, Marach, Aleppo.—Morocco. 652
 1223 Moustapha, Ourpha, Aleppo.—Leather. 652
 1224 Moustapha, Erzeroum.—Leather, morocco, etc. 652
 1225 Mohadjeri Nahe, Adana, Adana.—Gazelle skin. 652
 1226 Abdul Medjid, Vesalomon.—Goat skin. 652
 1227 Abdoulah, Aroubirje, Zoubei, Bagdad.—Morocco. 652
 1228 Seyfoullah, Roostchook, Danube.—Leather. 652
 1229 Sari Faki Moustapha, Marach, Aleppo.—Morocco. 652
 1230 Safran Bolu, Zaferemboli, Castamouni.—Morocco. 652
 1231 Panoucha, Yanina.—Leather. 652
 1232 Osman Agha, Koniah.—Leather. 652
 1233 Mehemed, Ousta, Boschir, Koniah.—Leather. 652
 1234 Omer, Ousta, Piseren, Monastir.—Morocco. 652
 1235 Ohannès Agha, Angora.—Angora goat skins. 652
 1236 Ahmed Agha, Koniah.—Leather and morocco. 652
 1237 Yanaki Kalviro, Yanina.—Goat skin. 652
 1238 Yousseuf, Caraman, Koniah.—Morocco. 652
 1239 Vasali Borbo, Yanina.—Morocco. 652
 1240 Tosty, Galota, Chio, Dardanelles.—Leather. 652
 1241 Chinopli, Thomas, Teralu, Yanina.—Sheep skin. 652
 1242 Sirkilé, Olan Andin, Angora.—Weasel skin. 652
 1243 Sirch, Oglou, Andon, Angora.—Wolf, weasel, and fox skin. 652
 1244 Atanach, Dardanelles, Dardanelles.—Sheep skin. 652
 1245 Andria, Trebizond.—Grebe skins. 652
 1246 Andon, Chio, Dardanelles.—Morocco. 652
 1247 Anastach, Kangre, Castamouni.—Goat skin. 652
 1248 Ali, Omer, Bigha, Dardanelles.—Deer skin. 652
 1249 Ali, Salonica.—Leather. 652
 1250 Ali, Mosul, Bagdad.—Beaver, fox, and wolf skin. 652
 1251 Ahmed, Ousta, Castamouni, Castamouni.—Angora goat skin. 652
 1252 Zelo, Christo, Yanina.—Red morocco. 652
 1253 Cherbedji Mehemed, Marach, Aleppo.—Goat and sheep skin. 652
 1254 Moussa Agha, Cheik, Diarbekir.—Goat and sheep skin. 652
 1255 Chaban Oglou Mehemed, Koniah, Koniah.—Cat skin. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Animal and Vegetable Products.

- 1256 Cassal, Adana, Adana.—Goat and sheep skin. 652
- 1257 Cafak, Abdoullah, Marach, Aleppo.—Morocco. 652
- 1258 Bekir Agha, Sivas, Sivas.—Leather, morocco, and skins. 652
- 1259 Balto Oglou Youssouf, Guengnek, Castamouni.—Morocco. 652
- 1260 Glano, Giorki, Yanina.—Skin. 652
- 1261 Eyoup, Ourpha, Aleppo.—Goat and sheep skin. 652
- 1262 Echef Effendi, Trebizond.—Morocco. 652
- 1263 Ebouker, Chérif, Tripoli, Tripoli.—Sheep skin. 652
- 1264 Dchoban Oglou Mehemed, Koniah.—Fox skin. 652
- 1265 Corporation of Curriers, Smyrna.—Leathers, skins, and morocco. 652
- 1266 Dauli, Christo, Yanina.—Morocco. 652
- 1266a Corporation of Curriers, Damascus.—Leather and morocco. 652
- 1267 Calman, Government of, Syria.—Goat skin. 652
- 1268 Cherishor, Government of, Bagdad.—Lamb skin. 652
- 1269 Bourd, Government of, Bagdad.—Morocco. 652
- 1270 Ohanès Agha, Marach, Aleppo.—Ounce and weasel skins. 652
- 1271 Bagdad, Government of.—Buffalo skin and morocco. 652
- 1272 Moustapha, Hadji, Marach, Aleppo.—Skins. 652
- 1273 Adana, Government of.—Roebuck and calf skins. 652
- 1274 Godchè, Erondi, Prévèzé, Yanina.—Leather, morocco. 652
- 1275 Gulbin, Oglou Mehemed, Koniah, Koniah.—Jackal skin. 652
- 1276 Tahif, Government of, Hidjaz.
a Sheep and goat skin. 652
b Honey. 654
- 1277 Kara Issali, Government of, Adana.—Deer skin. 625
- 1278 Feulgehete, Government of, Syria.—Deer skin. 652
- 1279 Erzeroum, Government of.
a Goat skin, morocco. 652
b Down. 653
- 1280 Diarbekir, Government of.—Leather and morocco. 652
- 1281 Dardanelles, Government of.—Goat skin. 652
- 1282 Damascus, Government of, Syria.
a Sheep skin. 652
b Honey and wax. 654
- 1283 Constantinople, Government of.—Morocco and other leathers. 652
- 1284 Manik, Hadji, Erzeroum.—Fox skin. 652
- 1285 Ismail Effendi, Hadji, Koniah, Koniah.—Otter skin, etc. 652
- 1286 Ismail, Hadji, Aintab.—Calf skin, leather, and morocco. 652
- 1287 Ibrahim, Hadji, Angora.—Leather and morocco. 652
- 1288 Damiano, Hadji, Bosnia.—Bear, fox, weasel, badger, and marten skins. 652
- 1289 Amparson, Hadji, Trebizond.—Jackal, fox, weasel, lamb, and sable skins. 652
- 1290 Ahmed, Hadji, Angora.—Goat and sheep skin. 652
- 1291 Achmet Agha, Hadji, Angora.—Lamb skin. 652
- 1292 Rafoul, Hodja, Marach, Aleppo.—Wildcat, fox, otter, and jackal skins. 652
- 1293 Hassan Oglou Ahmed, Dardanelles, Dardanelles.—Wildcat, fox, beaver, weasel, and jackal skins. 652
- 1294 Hassan, Ousta, Castamouni.—Morocco. 652
- 1295 Harani Oglou, Castamouni, Castamouni.—Ounce skin. 652
- 1296 Haho, Babanoun Hamed Agha, Koniah.—Morocco. 652
- 1297 Yassin, Hadji, Saret, Diarbekir.—Leather. 652
- 1298 Rouchen, Hadji, Trebizond.—Goat and calf skins. 652
- 1299 Omer Agha, Hadji, Diarbekir.—Morocco. 652
- 1300 Moustapha Ahmoud, Hadji, Tripoli, Tripoli.—Morocco, tanned skins, etc. 652
- 1301 Kurdju, Hadji, Diarbekir.—Beaver skin. 652
- 1302 Karabet Agha, Erzeroum.—Weasel and wolf skins. 652
- 1303 Kara, Poutamo, Prévèzé, Yanina.—Goat and sheep skin. 652
- 1304 Ismail, Agha, Boschir, Koniah.—Leather. 652
- 1305 Ismail, Hadji, Marach, Aleppo.—Leather. 652
- 1306 Isaac, Aleppo, Aleppo.—Lamb skin. 652
- 1307 Ipsilanki & Co., Samos, Castamouni.—Leather. 652
- 1308 Ibrahim, Uskup, Monastir.—Morocco. 652
- 1309 Hussein Effendi, Salonica.—Tanned hides and morocco. 652
- 1310 Mehemed Emin, Mosul, Bagdad.—Morocco. 652
- 1311 Mehemed Effendi, Adrianople.—Leather, morocco, goat, and calf skins. 652
- 1312 Mehemed, Koniah, Koniah.—Wolf skin. 652
- 1313 Masloum Agha, Candia, Crete.—Goat skins and morocco. 652
- 1314 Salomon, Salonica.
a Goat and lamb skins. 652
b Virgin wax. 654
c Cherry, orange, apricot, prune, verjuice, and gourd marmalade. 656
d Brandy, wine, and vinegar. 660
- 1315 Maroquin, Dardanelles.—Morocco. 652
- 1316 Kurjut Casmat, Diarbekir.—Fox and weasel skins. 652
- 1317 Piseren, Government of, Monastir.—Morocco. 652
- 1318 Abdoullah Ousta, Angora.—Leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27

Animal and Vegetable Products.

- 1319 Ana Bini, Tanasse, Sarret, Diarbekir.—Wax. 654
- 1320 Yeni Ahmed, Chür, Yanina.—Wax. 654
- 1321 Ahmed Agha, Lapseki, Dardanelles.—Yellow wax. 654
- 1322 Sahalim Bacbac, Tripoli, Tripoli.—Honey. 654
- 1323 Derbabian, Pedros, Sivas, Sivas.—Yellow wax 654
- 1324 Ohannès, Son of Varcha, Angora.—Honey. 654
- 1325 Moussin Effendi, Koniah, Koniah.—Yellow wax. 654
- 1326 Ahmed, Aintab, Aleppo.—Honey and wax. 654
- 1327 Samos, Government of. *a* Honey. 654
b Wine and brandy. 660
- 1328 Medina, Government of, Hidjaz.—Honey. 654
- 1329 Cherif Effendi, Trebizond. *a* Honey. 654
b Gourd, pear, and rose marmalade. 656
c Mulberry vinegar. 660
- 1330 Arpadji Mahmoud Agha, Adana, Adana.—Wax. 654
- 1331 Lefterimo, Aposthol, Tirala, Yanina.—Honey. 654
- 1332 Andonaki, Angora.—Wax. 654
- 1333 Pisereken, Government of, Monastir.—Crude wax. 654
- 1334 Ali Zotte, Golos, Yanina.—Yellow wax. 654
- 1335 Mahmoud Agha, Adana, Adana.—Honey. 654
- 1336 Keranche Oglou, Kotchissar, Castamouni.—Wax. 654
- 1337 Hussein Dédé, Kilid-Bahar, Dardanelles.—Honey. 654
- 1338 Haktar Mehemed, Aleppo.—Yellow wax. 654
- 1339 Osman, Hadji, Sarret, Diarbekir.—Honey. 654
- 1340 Volonia, Government of, Yanina.—Honey and wax. 654
- 1341 Suleimaneeyah, Government of, Bagdad.—Wax. 654
- 1342 Smyrna, Government of, Aydin. *a* Honey and wax. 654
b Dried grapes, raisins. 656
c Wine. 660
- 1343 Abdourahman, Erzeroum.—Yellow wax. 654
- 1344 Abdourahman, Zubei, Yiemen.—Wax. 654
- 1345 Catari, Giorki, Golos, Yanina.—Olives. 656
- 1346 Ali Oglou Moussa.—Dried mollusks. 656
- 1347 Ahmed Agha, Aleppo.—Raisins. 656
- 1348 Yussuf Sarret, Diarbekir.—Raisins. 656
- 1349 Tetoullah Effendi, Darendé, Sivas.—Prunes. 656
- 1350 Serdar, Hassan Oglou Hussin, Canea, Crete.—White and black raisins. 656
- 1351 Seid, Mehemed Agha, Angora.—Dried apples, prunes, cherries, apricots. 656
- 1352 Pembedje, Oglou Moustapha, Mardin, Diarbekir.—Prunes. 656
- 1353 Koyoun, Andonik, Angora. *a* Dried and salt beef, sausages. 656
b Brandy, wine, and vinegar. 660
- 1354 Kirkor, Avakir, Diarbekir.—Mulberry paste. 656
- 1355 Hussein, Gaat, Mardin, Diarbekir.—Prunes. 656
- 1356 Haskanorich, Ali, Korimdja, Bosnia.—Prunes. 656
- 1357 Osman, Hadji, Koniah, Koniah.—Raisins. 656
- 1358 Ali, Hadji, Aleppo.—Dried prunes, quinces, cherries, and apricots. 656
- 1359 Zaferampolo, Government of, Castamouni.—Dried prunes. 656
- 1360 Nitch, Government of, Danube.—Prunes. 656
- 1361 Nasli, Government of, Aydin.—Dried figs. 656
- 1362 Mikali, Nicolaidi, Canea, Crete.—Orange, apple, orange blossom, cherry, and pear marmalade. 656
- 1363 Mikail, Aleppo. *a* Dried prunes, cherries, apricots, raisins, and apples. 656
b Mastic. 660
- 1364 Merkioss, Mamor, Diarbekir.—Dried mulberries. 656
- 1365 Mehemed Aiché, Tripoli, Tripoli.—Soup and vegetable paste, vermicelli. 656
- 1366 Mehemed, Malatia, Diarbekir.—Mulberry paste. 656
- 1367 Mazloum, Aghiah, Constantinople.—Trehala and trehalose pastes. 656
- 1368 Maki Yani, Chio, Dardanelles.—Mastic, orange, rose, and lemon-blossom confitures. 656
- 1369 Mark, Samos, Samos.—Muscat raisins. 656
- 1370 Kournik Ali Agha, Kangre, Castamouni.—Dried apricots. 656
- 1371 Pedros, Mihalgazi, Castamouni.—Raisins. 656
- 1372 Over Agha, Malatia, Diarbekir.—Raisins. 656
- 1373 Osman Bin Mohamed, Korimdja, Bosnia.—Prunes. 656
- 1374 Omer Djerballi, Tripoli, Tripoli.—Vermicelli and soup paste. 656
- 1375 Moustapha, Malatio, Diarbekir.—Dried peaches. 656
- 1376 Ateuf Dédé, Broussa, Broussa.—Angelica-root marmalade 656
- 1378 Widin, Government of, Danube. *a* Sausages and smoked beef tongues. 656
b Raspberry wine. 660
- 1379 Moustapha Agha, Adana, Adana.—Raisins. 656
- 1380 Ahmed, Erzeroum.—Dried prunes. 656
- 1381 Mehemed Djeballi, Tripoli, Tripoli.—Semoule flour. 657
- 1382 Koudour Hadji, Aleppo.—Grenade syrup. 659

Vegetable Products, Wines, Textile Substances.

- 1383 Ohannes, Diarbekir.—Grape syrup. 659
- 1384 Central Drug Store, Constantinople.—Fruit syrups, etc. 659
- 1385 Ispiro, Salonica.—Orange, cherry, and grenade syrups. 659
- 1386 Raftopoulos, Nicolas.—Mint, sage, and almond liquors. 660
- 1387 Kirkor Effendi, Erzeroum.—Alcohol. 660
- 1388 Karabet, Diarbekir.—Orange, rose, juniper, and other brandies. 660
- 1389 Ychrapalaki, Hadji, Nicolas, Retimo, Crete.—Mulberry brandy. 660
- 1390 Gulbing Oglou Kakout, Koniah, Koniah.—Wine and brandy. 660
- 1391 Salomon, Gumuldjin, Salonica.—Wine. 660
- 1392 Retimo, Government of, Crete.—Wine and brandy. 660
- 1393 Monastir, Government of.—Wines. 660
- 1394 Gostcho Djivaré, Prévèzé, Yanina.—Wine. 660
- 1395 Vafiadi Giorki, Salonica.—Wine. 660
- 1396 Distillery of Zahari, Piseren, Monastir.—Brandy. 660
- 1397 Tountcha Litché, Tirnova, Yanina.—Wine. 660
- 1398 Tomochordo, Piseren, Monastir.—Wine. 660
- 1399 Tletora, Theodore, Samos.—Muscate wine. 660
- 1400 Théphasaki Ysiako, Canea, Crete.—White wine. 660
- 1401 Stamadi Marneraki, Lachite, Crete.—Red wines. 660
- 1402 Pereno Papa, Adana, Adana.—Brandy. 660
- 1403 Pefkiades, John, Samos.—Muscate wine. 660
- 1403a Yussep, Tokat, Sivas.—Rose mastic. 660
- 1404 Papaz Oglou, Salonica.—White wine. 660
- 1405 Nicoloreuzi Bros., Samos.—Muscate wine. 660
- 1406 Yanaki, Nicolas, Ile of Bousdja, Dardanelles.—Wine and vinegar. 660
- 1407 Manoli Muzé, Tirnova, Yanina.—Vinegar. 660
- 1408 Direction of the Vineyards Pacha Liman, Broussa.—Red and white wines, cognac. 660
- 1409 Leonisaki, Dimitri, Canea, Crete.—Brandy. 660
- 1410 Cafejedaki, John, Samos.—Alcohol and wines. 660
- 1411 Bodou Agha, Diarbekir.—Wine. 660
- 1412 Bano, Adana, Adana.—Wine. 660
- 1413 Bedré, Anton, Aleppo.—Vinegar. 660
- 1414 Andin Chako, Narda, Yanina.—Mulberry brandy. 660
- 1415 Yussep, Tokat, Sivas.—Rose vinegar and brandy. 660
- 1416 Yani, Lachite, Crete.—Mulberry brandy. 660
- 1417 Yani, Pappa Antoonaki, Lachite, Crete.—Grape brandy. 660
- 1418 Mehanedji, Foly, Candia, Crete.—Rose brandy and wine. 660
- 1419 Manoli Prizi, Candia, Crete.—Wine and white brandy. 660
- 1420 Ipsamarki Yani, Ile of Bousdja, Dardanelles.—Brandy. 660
- 1421 Mark, G. L., Samos.—Brandy and wine. 660
- 1422 Missir, Joseph, Samos.—Muscate wine. 660
- 1423 Tousseano, Diarbekir.
a Vinegar. 660
b Mint oil. 662
- 1424 Moustapha, Dardanelles.—Coffee biscuits. 661
- 1425 Ipsamarki Yani, Chio, Dardanelles.—Vine-branch oil. 662
- 1426 Ahmed, Antakia, Aleppo.—Almond and palma-christi oils. 662
- 1427 Cherif Oglou Mehemed, Philippopolis, Adrianople.—Wild thyme and mint oil. 662
- 1428 Hetoulat, Diarbekir.—Batom oil. 662

Textile Substances of Vegetable or Animal Origin.

- 1429 Hussein Agha, Adana, Adana.—Cotton. 665
- 1430 Bekir, Hadji, Adana, Adana.—Cotton, cotton bolls. 665
- 1431 Uskup, Government of, Monastir.
a Cotton. 665
b Spun hemp. 666
c Cocoons. 668
- 1432 Saroukhan, Government of, Aydin.—Cotton. 665
- 1433 Mosul, Government of, Bagdad.
a Cotton. 665
b Cocoons. 668
- 1434 Kerbella, Government of, Bagdad.
a Cotton. 665
b Indian hemp. 666
c Wool. 667
- 1435 Feulgehete, Government of, Syria.
a Cotton. 665
b Wool. 667
- 1436 Etlép, Government of, Aleppo.—Cotton and cotton bolls. 665
- 1437 Théophani, Nicoforaki, Canea, Crete.
a Cotton seed. 665
b Spun flax. 666
c Wool. 667
d Blue and yellow cocoons. 668
- 1438 Salomon, Salonica.
a Cotton. 665
b Tow. 666
c Wool. 667
- 1439 Pano Mamatti, Prévèzé, Yanina.—Cotton. 665
- 1440 Moussa, Palatnos, Yanina.—Cotton bolls. 665
- 1441 Mardili, Oustidi, Diarbekir.—Crude cotton. 665
- 1442 Laz Osman, Kangre, Castamouni.—Cotton. 665
- 1442a Kozon, Andonaki, Angora.—Cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification pp. 27-

Textile Substances of Animal and Vegetable Origin.

- 1443 Ismail Effendi, Sullé, Koniah.—Cotton. 665
- 1444 Ibrahim Effendi, Gueugnek, Castamouni.—Cotton. 665
- 1445 Amassia, Government of, Sivas. a Cotton. 665
b Indian hemp. 666
- 1446 Dimitri, Giorgaki, Prévèsé, Yanina.—Cotton. 665
- 1447 Dimitri, Constanti, Tirala, Yanina.—Cotton. 665
- 1448 Cazi, Agha, Caraman, Koniah.—Cotton bolls. 665
- 1449 Astadj, Narcisse, Aleppo.—Cotton. 665
- 1450 Djourbachi, Antolu, Maidos, Dardanelles.—Cotton. 665
- 1451 Andon, Constanti, Palatnos, Yanina.—Cotton. 666
- 1452 Tarako, Uskup, Monastir.—Spun flax. 666
- 1453 Mehemed, Marach, Aleppo.—Hemp. 666
- 1454 Damascus, Government of, Syria.—Hemp. 666
- 1455 Maimoun, Tripoli, Tripoli.—Wool. 667
- 1456 Kiyork, Dellale Oglou, Esiné, Dardanelles.—Wool. 667
- 1457 Kirkora, Adana, Adana.—Wool. 667
- 1458 Khalil Agha, Ourpha, Aleppo.—Wool. 667
- 1459 Hadji, Koniah, Koniah.—Wool. 667
- 1460 Volonia, Government of, Yanina.—Wool. 667
- 1461 Suleimaneeyah, Government of, Bagdad. a Wool. 667
b Goat and other hair. 669
- 1462 Smyrna, Government of, Aydin. a Wool. 667
b Cocoons. 668
- 1463 Yousseouf, Aleppo, Aleppo.—Wool. 667
- 1464 Tigour Ahmed, Kangre, Castamouni.—Wool. 667
- 1465 Teftif Oglou Moussa, Koniah, Koniah.—Wool. 667
- 1466 Starri, Kangre, Castamouni.—Wool. 667
- 1467 Selim Kohi, Ichkodra, Monastir.—Wool. 667
- 1468 Panor Mamatti, Volonia, Yanina.—Wool. 667
- 1469 Moustapha, Hadji, Painbé Zade, Esiné, Dardanelles.—Black wool. 667
- 1470 Mehemed Agha, Koniah, Koniah.—Wool. 667
- 1471 Couyoun Oglou Andon, Angora.—Wool. 667
- 1472 Cherif Agha, Ezeroum.—Wool. 667
- 1473 Zade Moustapha, Cheik, Kangre, Castamouni.—Wool. 667
- 1474 Avadjan, Sivas, Sivas.—Sheeps' wool. 667
- 1475 Arabe Mehemed, Mardin, Diarbekir.—Wool. 667
- 1476 Anagnosti, Pappadlaki, Lachite, Crete.—Wool. 667
- 1477 Ahgme Agha, Kangre, Castamouni.—Wool. 667
- 1478 Kochaf Ajediz, Antakia, Aleppo.—Cocoons. 668
- 1479 Karabet, Salonica.—Cocoons. 668
- 1480 Ibrahim Effendi, Hadji, Mihalgazi, Castamouni.—Cocoons. 668
- 1481 Samos, Government of.—Yellow and white cocoons. 668
- 1482 Berat, Government of, Yanina.—Cocoons. 668
- 1483 Estur Oglou Estur, Tias, Adana.—Cocoons. 668
- 1484 Banouch, Son, Kiranié, Yanina.—Cocoons. 668
- 1485 Avram, Adrianople.—Japanese cocoons. 668
- 1486 Yanaki, Tdomane, Yanina.—Cocoons. 668
- 1487 Yanaki, Thomas, Volonia, Yanina.—Cocoons. 668
- 1488 Yanak, Arap, Tdomane, Yanina.—Cocoons. 668
- 1489 Sukiasian, Adrianople.—Cocoons. 668
- 1490 Pemno Petcha, Tirala, Yanina.—Cocoons. 668
- 1491 Nakach, David, Diarbekir.—Cocoons. 668
- 1492 Mihali, Sullé, Koniah.—Cocoons. 668
- 1493 Makiani, Ipsser, Bigha, Dardanelles.—Cocoons. 668
- 1494 Anguel, Ichkodra, Monastir.—Cocoons. 668
- 1495 Anastassi, Antonafaki, Cana, Crete.—Blue and yellow cocoons. 668
- 1496 Ali Zotte, Caza, Yanina.—Cocoons. 668
- 1497 Mahmoud, Marach, Aleppo.—Goat hair. 669
- 1498 Hussein, Hadji, Koniah, Koniah.—Camel hair. 669
- 1499 Mohamed, Hadji, Koniah, Koniah.—Goat hair. 669
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RUSSIA.

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- 5 Filosofoff, Basil, & Co., Kineshma, Government of Kostroma.—Chemicals. 200
- 6 Rastergaëff, Gregory, St. Petersburg.—Chemicals. 200
- 7 Matteissen, Nicolas, Moscow.—Potash. 200
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- 9 Bett, Theodore, Cronstadt.—Oil, refined lubricating. 201
- 10 Calcined Bone Manufacturing Co., St. Petersburg.—Burnt bone, bone grease, ammoniac, etc. 201
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- 40 Ter-Davydoff, St. Petersburg.—Earthenware jugs. 210
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- 135 Reichel, Julius, Warsaw.—Silk
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- 136 Boonin, John, Moscow.—Hosiery
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- 137 Lange & Co., Moscow.—Silk rib-
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- 138 Sytoff, John, Moscow.—Galloons
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- 143 Vinogradova, Anne, Nijni-Nov-
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- 144 Wekmann, Malvina, Helsingfors.
—Hosiery. 250
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Boots. 251
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- 176 Moltchanoff, Wladimir, Vologda.—Russian lace and embroidery. 252
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- 180 Kamenstchikoff, Toryok, Government of Twer.—Embroidered cushions, sashes, etc. 252
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- 184 Sovetoff, Mary, St. Petersburg.—Embroidered shirt. 252
- 185 Society for the Encouragement of Women's Labor, Moscow.—Embroideries, towels, handkerchiefs. 252
- 186 Reichel, Julius, Warsaw.—Embroideries, handkerchiefs. 252
- 187 Nevossiltzeff, M., St. Petersburg.—Embroideries, lace. 252
- 188 Nadporosky, M., Belozersk, Government of Novgorod.—Embroideries, laces. 252
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- 196 Grikooroff, St. Petersburg.—Silver ornaments, bracelets, brooches, belts, and studs. 253
- 197 Hesserich & Woerffel, St. Petersburg.—Jewelry, personal adornments in malachite, rhodrite, jasper, lapis, lazuli, and other Siberian hard stones. 253
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- 199 Glinkin Bros., Government of Vologda, District of Kadnikoff.—Horn articles. 254
- 200 Aksenooff, Paul, Moscow.—Toys. 254
- 201 Perepelkin, John, Petersburg.—Umbrellas. 254
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- 203 Maass, T., Mitau.—Wigs. 254
- 204 Loth, Edward, Warsaw.—Basket artificial flowers. 254
- 205 Kotzmann, E., Reval.—Umbrellas. 254
- 206 Hodjaieff, Karapet, St. Petersburg.—Cigar holders; Niello, with silver. 254
- 207 Bernstein Bros., H. & B., Ostrolenko, Government of Loenza.—Fancy articles in amber. 254
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- 210 Vishniakoff, Joseph, & Sons, Ostashkovo, near Moscow.—Lacquered papier-maché articles, and japanned trays. 254
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- 215 Grünwald, M., Riga.—Furs; mosaic fur carpet. 256
- 216 Petroff & Medvedeff, St. Petersburg.—Furs, articles of winter dress for ladies. 256
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- 218 Soorin, Paul, St. Petersburg.—Mosaic fur carpet of three thousand pieces. 256
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- 220 Litoff, K., Vologda.—National costumes of the Tyrians. 257
- 221 Hoving, Walter, Viborg, Finland.—Dolls, in national costumes. 257
- 222 Aristoff, Alexis, Moscow.—Cotton and woolen scarfs, used as sashes by the Russian peasantry. 257
- 223 Vedernikoff & Mikailoff, St. Petersburg.—National costumes and articles of clothing. 257
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- 226 Mirkovski Paper Mill Co., Weruzzen, Government of Calisz, District of Velun.—Writing-paper. 256
- 227 Epstein, John, Soczevka, Warsaw, District of Gostyn.—Writing-paper, drawing and blotting paper. 259
- 228 Sergeleff, P. W., Pensa.—Writing-paper. 259
- 229 Frenkel, J. K., & Son, Tammerfors, Government of Tavastgus, Finland.—Writing-paper. 259

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233 Franaszek, T., Warsaw.—Paper-hangings. 264

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235 Koozmin, G., Toola.
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240 Sestroretzk Rifle Manufactory, near St. Petersburg.—Calvary carbines, Cossack muskets. 265
241 Tenner, St. Petersburg.—Apparatus for wrapping bullets with paper. 265
242 Pootiloff Iron Works Co.—St. Petersburg.—Eleven-inch projectiles. 267
243 Raskazoff, St. Petersburg.—Model of a double stand for two forty-ton guns. 267
244 Ordnance Department, St. Petersburg.—Mortar and gun carriage (Semenaf's and Engelhardt's system). 267
245 Obookhoff Steel Foundry, near St. Petersburg.—Heavy ordnance gun carriages and platforms (wedge mechanism for breech loading). 267
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247 Administration of the Olonetz Mining District.—Six-inch projectile with zinc covering. 267
248 Zlatoust Crown Armor Factory, Government of Orenburg.—Damascus swords, blades, daggers, and knives. 268
249 Hodjaieff, Karapet, St. Petersburg.—Asiatic dagger. 268
250 Yachimek, John, & Sosnovski, Jacob, Warsaw.—Double-barreled gun. 269

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252 Matteissen, Nicolas, Moscow.—Vegetable and animal products used in medicine. 272
253 Pik, Jacob, Warsaw.—Surgical instruments. 276
254 Ebermann, Alexander, St. Petersburg.—Urethrotome (exhibitor's system). 276

- 255 Crown Surgical Instrument Manufactory, St. Petersburg.**—Set of surgical instruments (special purpose). 276
256 Wywodzeff, St. Petersburg.—Apparatus for embalming. 276
257 Bauch, Charles, St. Petersburg.—Artificial jaws, teeth, and palate. 277
258 Finkheim, William, Revel.—Artificial teeth, appliances for deformities of teeth and palate; apparatus for stammerers. 277
259 Majeovski, T., Warsaw.—Odontalgic drops. 277
260 Bernardo, Berkmeier, Dr. L., Moscow.—Collection of artificial teeth and jaws. 277
261 Ivanoff, Timothy, Moscow.—Portable hospital couch (photographic copy). 278
262 Lilpop, Rau, & Loevenstein, Warsaw.—Steps for hospital wagon and springs for litter. 278

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264 Russian Rail Manufacturing Co., Government of Riason, District of Pronsk.—Iron and steel sewing and knitting needles. 281
265 Kondratoff, Demetrius, Vatcha, Government of Vladimir, District of Moorom.—Knives and penknives. 281
266 Kaliakin, John, & Sons, Pavlovo, Government of Nijni-Novgorod.—Knives and penknives. 281
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275 Naoomoff, Basil, Kroopino, Government of Moscow, District of Bogorodsk.—Bronze candlesticks. 283
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- 281 Nemiloff, Clement, Ryeff, Government of Twer.**—Hemp yarn. 287
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- 283 Nemiloff, Clement, Ryeff, Government of Twer.**—Hemp, rope, and bolt rope yarns. 287
- 284 Fedoroff, John, Moscow.**—Lime-tree bast hampers, samples of same material. 289
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- 286 Skorniakoff, E., Yaroslavl.**—Articles turned in wood. 289
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- 289 Beliaieff, George, Fastavo, near Moscow.**—Albums, papier-maché. 289
- 290 Safonoff, S. A., Sergievsky, Pasad, Government of Moscow.**—Toys carved in wood. 289
- 292 Mikhaeloff, Mrs., St. Petersburg.**—Ornamental wooden tureens and spoons. 289
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- 300 Chief Intendency of War, St. Petersburg.**—War train-wagons and vehicles. 294
- 301 Shiloff, Athanasius, Moscow.**—Harness, gilt fittings and trimmings. 296
- 302 St. Petersburg Arsenal.**—Artillery harness. 296
- 303 Mück, William, Warsaw.**—Hemp carriage trimming, bridles, girth for harness. 296
- 304 Lange & Co., Moscow.**—Reins and saddle girths. 296
- 305 Roozin, Theodore, Pestovo, Government of Moscow, District of Bogorodsk.**—Harness. 296
- 306 Sossolnikoff, John, Nijni-Novgorod.**—Harness. 296
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- 308 Herczinski, W., Warsaw.**—Harness articles—reins, traces, saddles, etc. 296
- 309 Antonoff, Moscow.**—Harness-bow (dooga) painted and gilt. 296

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WEEK ENDING	COPIES PRINTED.	WEEK ENDING	COPIES PRINTED.
March 20.....	849,382	September 18.....	863,358
27.....	845,802	25.....	858,778
April 3.....	857,956	October 2.....	863,935
10.....	868,556	9.....	870,820
17.....	855,076	16.....	878,082
24.....	858,270	23.....	874,625
May 1.....	869,542	30.....	876,160
8.....	867,550	November 6.....	908,580
15.....	877,450	13.....	852,372
22.....	874,946	20.....	847,815
29.....	866,276	27.....	836,248
June 5.....	873,782	December 4.....	845,378
12.....	869,769	11.....	1,042,716
19.....	880,348	18.....	956,294
26.....	883,846	25.....	933,864
July 3.....	898,862	January 1.....	933,987
10.....	867,574	8.....	952,201
17.....	877,400	15.....	953,019
24.....	876,282	22.....	969,910
31.....	874,216	29.....	967,850
August 7.....	865,558	February 5.....	993,030
14.....	875,982	12.....	1,024,647
21.....	880,488	19.....	1,027,209
28.....	870,502	26.....	1,014,766
September 4.....	872,211	March 4.....	1,014,993
11.....	860,755	11.....	1,028,951
TOTAL.....		46,799,769	

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- 8a American Missionary Association, New York, N. Y.—Map, pictures of institutions, catalogues, histories, and examination papers. T 47 (*South Gallery.*)

- 9 Peirce, I. Newton, Philadelphia, Pa.—Combination desks, seats, settee, blackboard, model of a log cabin school house, maps. (*Pennsylvania Educational Building.*) 300

- 9a Roos, Peter, Boston, Mass.—Drawings. (*East Gallery.*) 300

- 10 Steiger, E., 22 & 24 Frankfort street, New York, N. Y.

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- b Illustrated works. 306

- 11a Adams, S. C., Cincinnati, O.—Illustrated map of the world's history. T 73. 300

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- a Outline wall maps. 300

- b Normal school books. 301

- c Publications of five generations of Sower family. 306

- 13 Ditson, J. E., & Co., Philadelphia, Pa.—Sheet music. T 73 to 78. 302

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

School Text Books, Apparatus, Statistics, etc.

- 13a Massachusetts Institute of Technology**, Boston, Mass.—Students' work, drawings, designs, note-books, theses, published memoirs, models, apparatus, inventions, metallurgical products, etc. (*East Gallery*). 302
- 14 Stevens Institute of Technology**, Hoboken, N. J.—A school of mechanical engineering. Course, four years in mathematics, physics, chemistry, mechanical drawing, mechanical engineering, French, German, and belles-lettres, with extensive laboratories, workshops, drawing-rooms, etc. Exhibit consists of instruments of measurement and for illustration, exhibiting methods of instruction. Designs of machinery made by students, and finished machines and instruments actually constructed by students; these illustrating the results of instruction. Lastly, results of original investigations carried out by members of the faculty. Illustrated catalogues sent on application. T 67. 302
- 14a Cooper Union Evening School of Science and Art**, New York, N. Y.—Collection of drawings. T 46. 302
- 15 Hampton Normal & Agricultural Institute**, Hampton, Va.—Views, oil paintings, ground plan of building and of experimental farm; photographs of building and of students, examination papers. (*South Gallery*). 302
- 15a Meyer, Louis, Philadelphia, Pa.**—Sheet music and music books. T 73 to 78. 302
- 15b American Printing House for the Blind**, Louisville, Ky.—Books and apparatus for the blind, reports. (*South Gallery*). 303
- 16 State of Indiana Educational Department** (by S. H. Smart, Indianapolis).—Bound volumes of examination manuscripts, by pupils of schools at Indianapolis, Evansville, Terre Haute, Fort Wayne, Logansport, Richmond, Goshen, Plymouth, Bedford, Huntington, Elkhart, Lawrenceburg, Mishawaka, Kokomo, Vevay, Delphi, Franklin, Bartholomew county, Martinville, Salem, Vanderburg county, and Wayne county.
Reports and works of Indiana authors.
Drawings from schools.
"Indiana School Journal" plans of buildings, maps of cities, school blanks, etc.
Herbariums and botanical specimens prepared by pupils of schools at Bedford and Indianapolis.
School apparatus from Terre Haute.
Specimens from Owen cabinet.
Mineral collection by pupils of Huntington schools.
Electrical apparatus for weighing under glass, invented by Prof. H. W. Wiley, Purdue University.
Chemical products by pupils of Purdue University.
Indiana fishes, prepared by Prof. Cope-land, of Indianapolis High School.
Zoological specimens, prepared by pupils of Indianapolis High School.
Native woods of Huntington county, by pupils of Huntington city schools.
Drawings from Fort Wayne, Indianapolis, and La Fayette schools.
Photographed blackboard work, specimens of penmanship and written music from Indianapolis schools.
School law of the State, condensed.
- Photographed blackboard work from La Fayette, Fort Wayne, and Terre Haute schools.
Photographs of prominent educators.
Primary work of Indianapolis and Fort Wayne schools.
Models of Ward and High School buildings at Indianapolis, Fort Wayne, Evansville, Muncie, Terre Haute, and La Fayette.
Model of log school house, the first built in Delaware county, Indiana.
Charts, exhibiting school system and its growth, and the college system of the State.
Banners, exhibiting school system, statistics, distribution of school houses, and the growth of the system in twenty years by semi-decades.
Banners showing Purdue, Asbury, and State Universities, Wabash, Union, Christian, and Eastham Colleges.
Banners showing State and Northern Indiana normal schools, and Indianapolis and Huntington city systems. (*South Gallery*). 304
- 17 State of Michigan** (F. W. Noble, Secretary, Detroit, Mich.).—Michigan school system, its history, statistics, plans, elevations, interior views, and students' work in public, primary, graded, and high schools, universities, and colleges. Rare birds and marine and land animals from museum of Michigan University. (*South Gallery*). 304
- 18 State of Wisconsin Educational Department** (by Edward Searing, Superintendent of Public Instruction).—Students' work, photographs of school buildings, educational map, books, etc. (*South Gallery*). 304
- 19 Educational Exhibit of Ohio** (by Charles S. Smart, State Commissioner of Common Schools).—History of educational effort and progress in Ohio; local histories of colleges, universities, private and technical schools; city, town, and village schools, giving rise and development of graded school system, etc.; manuscripts of students' work, including drawing, penmanship, arithmetic, English grammar, English composition, geography, natural sciences, music, high school branches, etc.; graphic illustrations of school statistics and progress; photographs and lithographs of school and college grounds and buildings; reports of city schools for year ending 1875, and of State Commissioner of Common Schools from 1837 to 1875 inclusive; catalogues of colleges and technical schools; reports of benevolent institutions; centennial contribution from the pioneer association of Athens county, Ohio. (*South Gallery*). 304
- 19a University of Nebraska.**—Photographs of building, etc. (*South Gallery*). 304
- 20 State of Rhode Island Board of Education**, Providence, R. I. (by T. B. Stockwell, Commissioner of Public Schools).—General history of education in the State; full set of State school reports; common school manual; annual reports for 1875 from the various cities and towns; documents relating to Brown University; history of Rhode Island Institute of Instruction; catalogues of State Normal School and Mowry & Goff's School; set of State and Newport school blanks; etc.

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 7

School Statistics, Students' Work.

- of the Rhode Island "Schoolmaster," statistical chart; school map of State and cities of Providence and Newport; course of study for State Normal School.
- Providence, public schools—Examinations from grammar and high schools, map and free hand drawing, design from flat copy, industrial drawings and crayon portraits. Warner's Commercial College—Drawings and penmanship; written examinations from primary, intermediate, grammar, and high schools, with map and free hand drawing and designs from Newport, Westerly, Woonsocket, Coventry, Warwick, Richmond, and Smithfield public schools.
- Perspective views of new library of Brown University and Woonsocket new high school, with plans and specifications; plans of some of the school buildings in Providence; views of Rhode Island State Normal School (study hall), Friends' Boarding School, and intermediate school of Providence; views of school houses of Tiverton, Bristol, Newport, and Woonsocket.
- Class volume of photographs, Brown University, 1876; school furniture from E. M. Thurston, Providence; blackboard from H. H. Burrington, Providence; book holders from I. S. & C. N. Brown, Providence. (*South Gallery*.) 304
- 21 State of New Hampshire, Department of Public Instruction** (by John W. Simonds, State Superintendent, Franklin, N. H.).—Kindergarten school—Specimens of kindergarten work. Public schools—Slates covered with work of primary pupils; specimens of scholars' written work, and examinations, compositions, drawings, penmanship; maps and plans; photographs and plans of school buildings and rooms; photographs of school superintendents and teachers; illustrated school register; wooden model of school-house.
- Academies, seminaries, and high schools—Photographs and plans of buildings and rooms; photographs of teachers and students; students' written work, drawings, etc.
- Dartmouth College—Bound catalogues and pamphlets, students' examination papers, drawings, illustrated programme, map of grounds, portraits of faculty and class of 1876; plans and views of buildings and rooms; relief map of the White Mountains.
- State Normal School—Reports; students' written work.
- Thayer School of Engineering—Model Pratt truss railroad bridge.
- Chandler Scientific School—Drawings, surveying papers, railroad map, models in plaster, examination papers and abstracts; essays.
- Agricultural College—Geological map.
- State school laws, reports, and registers; town school reports, history and catalogue of academies, etc.; records of normal school; Bouton's provincial papers.
- Educational publications; histories of towns; text books used 100 years ago; text books in present use; publications of E. C. Fastman. (*South Gallery*.) 304
- 22 State of Connecticut Educational Department** (by B. G. Northrop, Secretary, Hartford, Conn.).—Work by scholars and Chinese students; photographs of school-
- houses; works by former members of Yale College. (*South Gallery*.) 304
- 23 State of Illinois, Department of Public Instruction** (by S. M. Eter, Superintendent).—Reports of the department, and history of education in the State.
- Public schools—Pupils' work, school apparatus, drawings, books, maps, etc.
- Chicago public schools—Portfolios of examination papers, photographs, drawings, etc.
- Colleges and Seminaries—Work of students, museums, etc.
- Industrial University, Champaign, Ill.—Books, portfolios, and charts, containing work of students.
- Illinois Normal Universities—Work of students, museums, etc. (*East Gallery*.) 304
- 24 State of Maine, Educational Department** (by Warren Johnson, State Superintendent, Augusta, Me.).
- Kindergarten school, Lewiston; public schools in Portland, Bangor, Bath, Lewiston, Calais, Augusta, and various other cities and towns; private schools; Johnson Home School for Boys; Abbott School for Boys; St. Catharine's School for Girls, and others. School furniture from Doyle Bros., Bangor.
- Bowdoin College, Colby University, Bates College.
- Maine Wesleyan Seminary and Female College, Westbrook Seminary, Waterville Classical Institute, Maine Central Institute, Hallowell Classical Institute, and others; Western Normal School; Farmington and Eastern Normal School, Castine.
- State collection of agriculture and mechanic arts. (*South Gallery*.) 304
- 25 State of Iowa, Educational Department** (by Alonzo Abernethy, Des Moines).—Collective exhibit of the public schools of Davenport, Des Moines, Atlantic, Muscatine, Ottumwa, Marengo, Boone, Sigourney, Winterset, Lyons, Indianola, Wheatland, Clarence, Friends' Academy, Le Grand, and Osceola, Mt. Pleasant, Jefferson, West Liberty, Mason City, Wilton, Burlington, Sioux City, Denison, Kellogg, and of Oskaloosa, Amity, and Western Colleges, Iowa. Reports, charts, drawings, and examination manuscripts.
- Iowa School Furniture Co.—School desks and seats. (*South Gallery*.) 304
- 25a State of Missouri, Educational Department** (by Wm. T. Harris, St. Louis, Mo.).—Volumes of school furniture and photographs of schools. (*South Gallery*.) 304
- 26a State of Maryland Educational Exhibit.** (T 38 and *South Gallery*.)
- 26 State of Tennessee Educational Department, collective exhibit.**
- Trousdale, Leon, State Superintendent of Schools, Nashville, Tenn.—Reports and school banner.
- Dean, John R., County Superintendent, Shelbyville, Tenn.—Manuscripts of pupils of the schools, and school banner.
- Presnell, H., County Superintendent of Schools, Jonesboro, Tenn.—Photographs of Colored Training School and South Normal School buildings.
- Pickett, A., City Superintendent of Schools, Memphis, Tenn.—Examination manuscripts and principles of instruction; geographical drawings.
- Caldwell, S. V., City Superintendent,

School Statistics, Students' Work.

Nashville, Tenn.—Examination manuscripts, drawings, school banner, and annual reports.

Perkins, W. H., Principal Peabody Graded School, Powell's Station, Tenn.—Examination manuscripts of classes D and C, second grade.

Tennessee Medical Society, Nashville, Tenn.—Transactions of the session 1845.

Lindsley, J. Berrian, Nashville, Tenn.—Life and works of Philip Lindsley.

Giers, C. C., Nashville, Tenn.—Photographs of educators. (*South Gallery*.) 304

17 Commonwealth of Massachusetts, Department of Education and Science.

DRAWING AND MODELING.—Industrial, mechanical, and free hand, from the public day, evening, and Normal Art School; from the Massachusetts Institute of Technology, the Worcester Free Institute, and Boston Art Academy, nearly one thousand exhibits.

The Massachusetts System of Art Instruction for industrial, free hand, mechanical, and other drawing, designs of various kinds, models, and text books for schools and advanced study in drawing, designing, and modeling. Prepared by Butler Smith, published by L. Prang & Co.; exhibited in twenty-eight text books, one hundred and thirty-eight studies, forty-seven models, and fifty-seven casts.

PHOTOGRAPHS.—*Universities, Colleges, and Technical Schools:* Howard University, Bussey Institute, Williams College, Amherst College, Tuft's College, Boston College, College of the Holy Cross, Museum of Comparative Zoology, Massachusetts Institute of Technology, and Worcester Free Institute.

Women's Colleges: Mt. Holyoke, Wellesley, and Smith, Clarke's Articulating School for the Deaf.

Normal Schools: Bridgewater, Framingham, Westfield, Salem, and Worcester (interiors and exteriors).

School houses: Primary, grammar, high, and private schools of Boston, New Bedford, Greenfield, Salem, and other towns.

Harvard University, represented by photographs, catalogues, and courses of study.

Williams College, by photographs, catalogues, text books, and publications of its presidents and professors.

Amherst College, by photographs, catalogues, text books, history, and student life at Amherst.

Tuft's College, by photographs, text books, and catalogues; from the scientific department, instruments for the projection of Lissajou's curves, and the opeidoscope, by Prof. Dolbear.

Boston University, by year-books.

Boston College, by photographs and catalogues.

College of the Holy Cross: Photographs and historical sketch.

Mt. Holyoke Seminary: Photographs, water colors, catalogues, reports, documents, and history, memoir of Miss Lyon, first principal.

Wellesley College: Photographs, water colors, and drawings of buildings and interiors, circulars, pamphlet of history, and sketch.

Smith's College: Photographs, water colors, ground and other plans, history, and pamphlets.

Museum of Comparative Zoology:

*For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground-

drawings, illustrated catalogues, bulletins and reports, bust of Prof. Agassiz, contributions to natural history of the United States.

Massachusetts Institute of Technology: Photographs, documents, and student works, as follows: drawings and original designs in civil and mechanical engineering and architecture; physical, metallurgical, mining, and surveying apparatus; suits of physical experiments; model engineering structures; silver and extracted from the ore; tablet of the metric system; theses by graduates in civil, mechanical, and mining engineering, a lecture, chemistry, metallurgy, natural history, physics, science, and literature philosophy; designs for various fabrics, oil-cloths, porcelain decorated etc., by students of the Lowell Free Course of Practical Design.

Worcester Free Institute: Drawings and photographs, plan of study and discipline, students' work exhibited in examination papers, drawings, designs, photographic apparatus and models.

Theological Seminary, Andover: Memorial catalogues, etc.

Theological Institution, Newton: Photographs, catalogues, etc.

Clarke's Institution for the Deaf: Photographs, history system of teaching by articulation in reading, annual reports; system of vocal speech, by A. Graham Bell.

Perkins's Institution for the Blind: Specimens of books printed at the asylum work of pupils; Dr. Howe's reports.

Nathaniel Bowditch: Bust and portrait of Horace Mann; Portrait, life, lect and reports.

Collective Exhibits: From Boston, Bedford, and Greenfield, illustrating system of public instruction in the large and small cities and towns, including books, reference books, and apparatus text books used in Tuft's College, Williams, and Amherst, in the public schools of Boston, New Bedford, Greenfield; text books used in different cities towns of the State.

PUPILS' WORK.—From primary, grammar, and high schools, in two hundred and ninety bound volumes and seventy-two slates; specimens of work from grammar schools, in six portfolios, desk-mat, primary department, Grammar.

PUBLIC LIBRARIES.—*Boston Public Library:* Seventeen bound volumes, his catalogues, administration, annual quarterly reports.

Catalogues and photographs of libraries in Salem, Springfield, Lynn, Concord and other towns.

REPORTS.—Complete set of reports of State Board of Education, from 1837 to 1876, bound in twenty-nine volumes.

Complete set of annual school reports for 1875, from eighteen cities and one hundred and twenty-four towns, in twelve volumes.

ANNUAL STATE REPORTS FOR 1878: Board of Education, Board of State Commissioners, Board of Health, Bureau of Labor Statistics, Registration of Births and Deaths, State Librarian, Board of Agriculture, Treasurer, Adjutant-General, Auditor, Annual Returns of Corporations, Trustees of the Perkins Institution for the Blind, Trustees of the School for the Feeble-Minded Children, Com-

Educational Publications, Statistics, Apparatus.

ers of Railroads, Commissioners of Harbors, Commissioners of Insurance, Commissioners of Taxes, Commissioners of Savings Banks, Commissioners of State Prison, Inspectors of State Prison, Inspectors of State Workhouse, Bridgewater; Inspectors of State Almshouse, Tewksbury; Inspectors of State Primary School, Mouser; Inspectors of State Gas; Trustees Industrial School for Girls; Trustees State Reform School, Westboro'; Trustees Lunatic Asylum, Taunton; Trustees Lunatic Asylum, Northampton; Trustees Lunatic Asylum, Worcester; Trustees Lunatic Asylum, Danvers; Census of the State for 1865; Acts and Resolves for 1875; Public Documents, 1862 to 1874; Plymouth Colony and Massachusetts Bay Records; Decisions of Supreme Judicial Courts; Directories, city and county, from Sampson, Davenport & Co., Greenough & Co., D. Dudley & Briggs; Publications and Text books, from Brewer & Tileston, G. & C. Merriam, Thompson, Brown & Co., Schoenhof & Moeller, R. S. Davis & Co., W. F. Draper, Grim Bros., Oliver Ditson.

Publications of Societies: Natural History, Numismatic, Historic, Genealogical, Medical Improvement.

Reports of associations, organizations, towns, public libraries, etc.; *Psyche* Advertiser of Entomology.

Periodical Literature: A copy of every newspaper and periodical published in Massachusetts in 1876, bound in eleven volumes; New England Journal of Education for 1875 and 1876.

American Academy of Arts and Sciences: Proceedings, memoirs, and other works, thirty-four volumes.

Essex Institute: Full set of works; American Naturalist, nine volumes.

Peabody Academy of Science: Two volumes; complete set of Asa Gray's works; scientific, educational, and miscellaneous publications by Massachusetts authors; photographs and autographs of some of the living authors of Massachusetts; a series of astronomical drawings (thirty-four), from the physical observations of L. Trouvelot; Cambridge pastel drawings, from actual telescopic observations requiring ten years for their preparation, representing most interesting objects in astronomy, as comets, clusters, nebulae, meteors, solar spots and protuberances, eclipses, moon craters, planets, zodiacal light, aurora borealis, etc.

REPORTS SPECIALLY PREPARED FOR THIS EXHIBIT:—American Board of Commissioners for Foreign Missions; College of the Holy Cross; Boston College, 1874-1876; Clarke Institution for the Deaf; Mount Holyoke Seminary; Wellesley College; Smith College; Worcester Free Institute; Worcester Academy; Worcester Lyceum; Worcester Public Library; State Normal School, Bridgewater; State Normal School, Westfield; Publications Williams College, 1793-1876; Public Charities of Massachusetts, 1776-1876; Statistics of Schools, Greenfield; Statistics of High School, Pittsfield; Report of Grammar School, Pittsfield; Questions for Written Examinations Worcester; Worcester Truant School; Worcester Productive Union; Worcester County Musical Association; Worcester Choral Union; Worcester Young Men's Christian Association; Worcester Home for Aged Females; Worcester Children's Friend Society; Massachusetts

Temperance Alliance; New England Hospital for Women and Children; Temporary Home for Discharged Female Prisoners; Home for Little Wanderers; School for Pauper Boys; Industrial School for Girls, Dorchester; Washingtonian Home.

MAPS.—Educational, representing the universities, colleges, professional and technical institutions, academies, normal, high, grammar, primary, and ungraded schools and public libraries in the State; geological, hypsometric, density of population, proportion of foreigners to native population, trades and occupations, land under cultivation, wealth, railroads, births, deaths, and marriages; Nantucket historical and geographical map; Hoosac tunnel, large profile, twenty-three feet in length, with fifty-eight photographs; illustrated missionary map of the world, showing every station of the A. B. C. F. M.; globe, by E. C. Fitz.

Architectural Illustrations of Insane Asylums at Danvers, Worcester, and Northampton; New England Hospital for Women and Children, in Boston; Washingtonian Home, at Boston; Reformatory Prison for Women, at Sherborn; School for Neglected Children, at Deer Island (private); Institution for Feeble Minded Youth, at Barre; Warren Street Chapel, Boston; Abattoir, at Brighton.

MISCELLANEOUS.—Carving of wood from Washington's elm, Cambridge; illustration and description of Mastodon giganteus; astronomical lantern, from J. F. Clark; system of tachygraphy, by D. P. Linsley; specimen penmanship, by K. O. Herline; arithmetical cards, by Misses Faxon & Walcutt; tablet of metric system, J. P. Putnam, with pamphlet; natural history series and aids to object teaching, L. Prang & Co.; case containing two thousand crayons, Parmenter & Walker, Waltham; reversible blackboard, by Zollinger; health-light, by W. A. Knight; method of teaching music, by Mrs. J. B. Paige and H. M. Tappan; stereoscope and stereoscopic views of public buildings of historical interest; insurance tables, by Eliza Wright; school furniture, from A. G. Whitcomb and W. O. Haskell & Son; combination desk and organ, George Woods & Co.

Kindergarten: Inventions of children from four to six years of age; material for instruction, by Milton Bradley, & Co. Micro-photographs by Dr. E. Cutter.

Photographs of cities, libraries, high and other schools.

Exhibit illustrating the interest, progress, and condition, by the Essex Institute, four tables and one hundred and twenty-eight photographs, charts, models, and books, from S. F. Warren.

Society for the "Prevention of Cruelty to Dumb Animals," with improved methods for their treatment, books, newspaper, tracts, etc.

Photographs of specimens from Brown High School, Newburyport. (*East Gallery.*)

27a State of Minnesota, Educational Department.—Bound volumes of examination papers, maps, drawings, etc., from the public schools of St. Paul, A. M. Barrington, Superintendent of Public Schools; bound volumes of examination papers, maps, drawings, etc., from the public

Students' Work, Educational and General Publications.

- schools of Minneapolis and Winona, O. V. Tousley, Superintendent; designs and plans for school buildings, exhibited by A. Langdon, Winona. (*South Gallery*.) 304
- 28 State of New Jersey, Department of Public Instruction (by Ellis A. Appgar, Trenton, N. J.).—Work by school children, viz.: maps drawn from memory; mathematical operations; analysis and parsing; compositions; spelling; primary and miscellaneous work; artistic drawing in crayon, indian ink, and lead pencil; mineral and natural history collections; mechanical contrivances; photographic views, exterior and interior of school-houses, and decennial exhibit of their improvements, showing condition in 1866 and 1876; kindergarten work; penmanship; history of schools in New Jersey; works written by alumni of Princeton and Rutgers Colleges, and photographic views of the same. (*South Gallery*.) 304
- 29 State of Pennsylvania.—Educational exhibit shown in Pennsylvania Educational Hall. 304
- 29a Peirce's Union Business College.—Exhibit noticed under special buildings. (*Pennsylvania Educational Hall*.) 304
- 30 Bartlett, John R., Providence, R. I.—Catalogue of the library of the late John Carter Brown, relating to America. T 75. 305
- 31 Lippincott, J. B., & Co., Philadelphia, Pa.—Selected publications printed and bound in their establishment. T 72. 306
- 31a Lockwood, George R., New York, N. Y.—Audubon's Birds of America and Birds and Quadrupeds of America. T 75. 306
- 32 Porter & Coates, Philadelphia, Pa.—Books. T 73 to 78. 306
- 32a Merriam, G. & C., Springfield, Mass.—Copies of Dr. Noah Webster's works. T 73 to 78. 306
- 33 Davis, Chas. H., & Co., Philadelphia, Pa.—Zell's Encyclopedia, Hand Atlas, Cyclopedia of American Literature, and United States Business Directory; Centennial map of one hundred and thirty-six miles around Philadelphia. A specimen of Zell's Encyclopedia with map will be sent to any address on receipt of twenty cents. T 73 to 78. 306
- 33a Methodist Book Concern, New York, N. Y.—Miscellaneous books, Bibles, and hymn-books, Sunday-school libraries, teachers' helps. T 76. 306
- 34 Burley, S. W., Philadelphia, Pa.—Historical, descriptive, and statistical books. T 73. 306
- 34a Marshall, B. F. jr., Mobile, Ala.—The accountant's vade mecum. T 73 to 78. 306
- 35 Holman, A. J., & Co., Philadelphia, Pa.—Bibles. T 74. 306
- 35a Clark & Maynard, New York, N. Y.—Educational, Masonic, and miscellaneous works. T 73 to 78. 306
- 36 Presbyterian Board of Publication, Philadelphia, Pa.—Theological, practical, and Sabbath-school books and periodicals. T 74. 306
- 36a Miller, James, New York, N. Y.—Books. T 77. 306
- 37 Kohler, Ignatius, Philadelphia, Pa.—Publisher of German family Bibles, theological, classical, and miscellaneous works, viz., Schiller's Works, German, two editions, two volumes, and twelve volumes; Schiller's Works, English, complete in two volumes; Schiller's Poems, German-English, on opposite pages; German-English dictionaries, etc., etc. German classical, theological, and miscellaneous books. T 73 to 78. 306
- 37a Gevin Bros., Boston, Mass.—Educational and other works. T 77. 306
- 38 Allen, Henry S., New York, N. Y.—History of America. T 77. 306
- 38a Peters, J. L., New York, N. Y.—Musical magazines, sheet music, etc. T 73 to 78. 306
- 39 Wilson, Hinkle, & Co., Cincinnati, O.—Educational books. T 74. 306
- 39a Hoyt, Henry, Boston, Mass.—Books. T 77. 306
- 40 Calmann, Chas., Philadelphia, Pa.—Book of business firms in the United States. T 73. 306
- 40a McLoughlin Bros., New York, N. Y.—Toy books, games, etc. T 73 to 78. 308
- 41 Ivison, Blakeman, Taylor, & Co., New York, N. Y.—School and college text books; Spencerian system of penmanship. T 77. 306
- 41a Estes & Lauriat, Boston, Mass.—Books. T 77. 306
- 42 Graham, Andrew J., New York, N. Y.—Phonographic works. T 73. 306
- 42a Blodget, Lorin, Philadelphia, Pa.—Meteorological works and charts. T 73. 306
- 42b Putnam, G. P., & Sons, New York, N. Y.—Books. T 73. 306
- 43 Butler, J. H., & Co., Philadelphia, Pa.—Educational text books and outline maps. T 73. 306
- 43a Cook, E. A., & Co., Chicago, Ill.—Expositions of Freemasonry, etc. T 73. 306
- 44 Wood, Wm., & Co., New York, N. Y.—Medical books. T 77. 306
- 44a Harper & Bros., New York, N. Y.—Miscellaneous books, and complete sets of periodicals. T 77. 306
- 45 National Temperance Society, New York, N. Y.—Temperance books, tracts, pamphlets, papers, diagrams, etc. T 76. 306
- 45a Harding, W. W., Philadelphia, Pa.—Bibles, Testaments, and photograph albums. T 73. 306
- 46 Bicknell, A. J., & Co., New York, N. Y.—Books for builders. T 70. 306
- 46a Sherwood, George, & Co., Chicago, Ill.—Educational books. T 73 to 78. 306
- 47 Anglim, James, Washington, D. C.—Biographical annals of the civil government of the United States during its first century, by Charles Lanman. T 76. 306
- 47a Still, William, Philadelphia, Pa.—Book—The Underground Railroad. P 73. 306

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Books, Publications.

- 48 Claxton, Remsen & Haffelfinger, Philadelphia, Pa.—Books, games, historical charts, Centennial Guide and map of Philadelphia. T 73 to 78. 306
- 48a Swasey, J. N., Yonkers, N. Y.—Iconographic chart. T 52. 306
- 49 Kelly, Thomas, New York, N. Y.—Catholic prayer books and Bibles. T 77. 306
- 49a Atwood, John M., Philadelphia, Pa.—Map of North America. T 73. 306
- 50 Sheldon & Co., New York, N. Y.—School and college text-books; theological, religious, miscellaneous, and juvenile books; "Galaxy" magazine. T 77. 306
- 50a Dewey, D. M., Rochester, N. Y.—Plates of ornamental trees, fruits, and flowers of America. T 73 to 78. 306
- 51 Burlock, Saml. D., & Co., Philadelphia, Pa.—Photograph albums, Bibles. T 73. 306
- 51a Townsend, G. W., Philadelphia, Pa.—Napoleon question slips, for cultivating habits of thought, intended for educational uses, and the greatest good to the greatest number. For sale by Claxton, Remsen & Haffelfinger, Philadelphia, Pa., in packages, fifty cents and one dollar. T 73. 306
- 52 Potter, John E., & Co., Philadelphia, Pa.—Bible Encyclopedia, Bibles, Testaments, and standard miscellaneous books. T 76. 30
- 52a Virtue & Yorston, New York, N. Y.—T 73. 306
a Books, bound and in parts. 306
b Steel engraving. 421
- 53 Baird, Henry Carey, & Co., Philadelphia, Pa.—Practical, scientific, and economic books. T 75. 306
- 53a United States Publishing Co., New York, N. Y.—Our First Hundred Years, and other books. T 73. 306
- 54 Orange Judd Co., New York, N. Y.—"American Agriculturist" and rural books. T 73. 306
- 55 American Sunday-School Union, Philadelphia, Pa.—Evangelical publications for Sunday-schools and families. T 73. 306
- 55a Goodrich, D. W., New York, N. Y.—Books and calendars. T 73. 306
- 56 Appleton, D., & Co., Philadelphia, Pa.—Books. T 73 to 78. 306
- 57 Gebbie & Barrie, Philadelphia, Pa.—Fine art publications. N 71. 306
- 58 Roberts, Rev. H. Floy, Williamsburgh, N. Y.—Manuscript interlinear New Testament; the original Greek text, verbally translated, compared with our English version. T 73. 306
- 59 Asher & Adams, New York, N. Y.—Pictorial album, atlases, maps, and specimens of printing. T 73. 306
- 60 American Bible Society, New York, N. Y.—Bibles in ancient and modern languages and various bindings. T 75. 306
- 61 Potter, Ainsworth, & Co., New York, N. Y.—School books. T 76. 306
- 62 Griffiths, John W., New York, N. Y.—Works on ship building. T 76. 306
- 62a Michels, Ivan C., New York, N. Y.—Book containing the Lord's Prayer in five hundred languages; work of great research, comprising the labor of twenty-three years. T 75. 306
- 63 Johnson, T. & J. W., & Co., Philadelphia, Pa.—American and English law text books and reports. T 75. 306
- 64 Peterson, T. B., & Bros., 308 Chestnut street, Philadelphia, Pa.—Booksellers and publishers of American and foreign novelists. Call or send for illustrated catalogue. Books. T 77. 306
- 65 Stoddart, J. M., & Co., Philadelphia.—General literature; American edition of the "Encyclopedia Britannica." T 74. 306
- 66 Rice, D., & Co., Philadelphia, Pa.—McKenney's Indian Tribes of North America, one hundred and twenty illustrations (government edition), folio, three volumes; Michaux & Nuttall's Sylva, two hundred and seventy-seven illustrations, five volumes; National Portrait Gallery of Distinguished Americans, one hundred and fifty illustrations, three volumes. T 75. 306
- 67 Brewer & Tileston, Boston, Mass.—Worcester's dictionaries, arithmetics, histories. T 76. 306
- 68 University Publishing Co., New York, N. Y.—School books; Maury's geographies and wall maps; Venable's mathematics; Holmes's readers, United States history and grammars; Gilder-sleeve's Latin books; Carter's general history, etc. T 77. 306
- 69 Houghton, H. O., & Co., Riverside Press, Cambridge, Mass.; Hurd & Houghton, New York, N. Y.—Specimens of fine book printing, selected from their own publications and books printed for others; among them, Lord Bacon's Works, five copies only, printed on India paper; Notes on Columbus; and the Bibliotheca Americana, being the catalogue of the library of the late John Carter Brown, of Providence. Also framed specimens of plain and colored lithographic printing, designed and printed at the Riverside Press,—among them Longfellow's portrait, drawn by Baker, issued only with the Atlantic Monthly. T 73. (On the Pavilion of the American Book Trade Association.) 306
- 70 Masonic Publishing Co., New York, N. Y.—Masonic books and publications. T 73. 306
- 71 Wells, S. R., & Co., New York, N. Y.—Phrenological books and specimens, including busts and paintings, miscellaneous publications. T 77. 306
- 72 Scribner, Armstrong & Co., New York, N. Y.—Books, maps, etc. T 77. 306
- 73 American Tract Society, New York, N. Y.—Books, tracts, periodicals, wood engravings, teachers' Bibles, etc. T 76. 306
- 74 Sabin, J., & Sons, New York, N. Y.—Dictionary of books relating to America. T 75. 306
- 75 Leypoldt, F., New York, N. Y.—Publishers' Weekly, Trade List Annual, and other trade publications. T 75. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-43.

Books, Publications, Archaeological Collections.

- 76 Kehoe, Lawrence, The Catholic Publication Society, New York, N. Y.—Catholic books of history, devotion, controversy, and general literature. T 77. 306
- 77 Lindsay & Blakiston, Philadelphia, Pa.—Medical, dental, and scientific books; physicians' visiting list. T 73. 306
- 78 Kay & Bro., Philadelphia, Pa.—American and English law books. T 74. 306
- 79 Lee & Shepard, Boston, Mass.—Books. T 73 to 78. 306
- 80 Osgood, James R., & Co., Boston, Mass.—Books. T 73 to 78. 306
- 82 Seventh Day Adventist Publishing Association, Battle Creek, Mich.—Periodicals, books, and tracts. T 73. 306
- 83 Knapp, Albert E., Poultney, Vt.—Pictorial family Bible and continuous genealogical family record, for photographs and autographs of heads of families for successive generations. T 73. 306
- 84 American News Co., New York, N. Y.—American Bookseller's Guide and American Bookseller. T 75. 306
- 85 Miller's Bible & Publishing House, Philadelphia, Pa.—Bound Bibles and other books. T 73. 306
- 86 Dick & Fitzgerald, New York, N. Y.—Dick's Encyclopedia, books of popular information, etc. T 77. 306
- 87 The Centennial Guide Book Co. (limited), Philadelphia, Pa.—Visitors' Guide to the Centennial Exhibition and Philadelphia. H 72 and N 5. 306
- 88 American Baptist Publication Society, Philadelphia, Pa.—Books and periodicals. T 76. 306
- 89 Allen, Lane & Scott & Jas. W. Lauderbach, publishers, Philadelphia, Pa.—An elegant illustrated quarto, entitled "A Century After;" picturesque glimpses of Philadelphia and Pennsylvania, including Fairmount, the Wissahickon, the cities and landscapes of the State, and the Centennial Buildings. T 73 to 78. 306
- 90 Gill, Wm. F., & Co., Boston, Mass.—Monument device of books, in the form of Bunker Hill monument. T 74. 306

Institutions and Organizations.

- 91 Burleigh, J. B., Philadelphia, Pa.—Indian relics, illustrating the pre-historic age of the western continent. T 57. 312
- 91a Allen, Geo. W., St. Louis, Mo.—Archæological specimens from the ancient mounds of Missouri. T 63. 312
- 91b Sloan, W. B., Port Clinton, O.—Flint and stone implements and ornaments. V 63. 312
- 91c Read, A. N., Norwalk, O.—Stone implements. V 63. 312
- 91d Cutler, C., Hudson, O.—Flint, stone, and iron implements. V 63. 312
- 91e Kelley, Gustavus, Kelley's Island, O.—Flint and stone implements and ornaments. V 63. 312
- 91f Paul, Daniel, Martinsburg, O.—Flint and stone implements. V 63. 312

- 91g Fireland Historical Society, Norwalk, O.—Stone and flint implements and ornaments, pottery, etc. V 63. 312
- 91h Agricultural College of Ohio, Columbus, O.—Copper and stone implements, etc. V 63. 312
- 91i Archæological Society of Ohio, Columbus, O.—Map showing the location of ancient earthworks in the State. V 63. 312
- 91j Western Reserve College, Hudson, O.—Copper implements, stone pipes, hammers, etc. V 63. 312
- 91k Force, W. F., Cincinnati, O.—Copper implements of the mound builders. V 63. 312
- 91l Neff, Peter, Gambier, O.—Implements of stone and flint. V 63. 312
- 91m Buchtel College, Akron, O.—Stone and flint ornaments and implements. V 61. 312
- 91n Mt. Union College, Alliance, O.—Flint implements and weapons, pestles and mortars, slingstones, pipes. V 61. 312
- 91o Matson, John S. B., Shelby, O.—Mound implements, ornaments, etc. V 63. 312
- 91p Whittlesey, Charles, O.—Archæological collection. V 61. 312
- 92 Gabriel, Peter J., Perry, Me.—Implements, ornaments, and utensils used by the Passamaquoddy Indians; weapons, costumes, horse implements, and books. P 65. 312
- 92a Kenney, T. Mc., Portsmouth, O.—Stone relics, hammers, rollers, pestles, chisels, plates, pendants and other ornaments. V 63. 312
- 92b Henderson, J. P., Newville, O.—Stone, flint, and copper implements and ornaments. V 63. 312
- 92c Judge, J. F., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312
- 92d Morgan, M. C., Urbana, O.—Stone and flint implements. V 63. 312
- 92e Bartlett, C. L., Ravenna, O.—Stone and flint implements and ornaments. V 63. 312
- 92f Munday, Gilbert, Montezuma, O.—Stone implements. V 63. 312
- 92g Ashtabula County Historical Society, Ashtabula, O.—Stone and flint implements and ornaments. V 63. 312
- 92h Peet, S. D., Ashtabula, O.—Flint and stone implements and ornaments. V 63. 312
- 92i Beard, John, Attica, O.—Flint and stone implements and ornaments. V 63. 312
- 92j Bennett, H., Putnam, O.—Stone and flint implements and ornaments. V 63. 312
- 92k Hawkins, A. W., Twinsburg, O.—Stone and flint implements and ornaments. V 63. 312
- 92l Schroyer, J. C., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312
- 92m Byrnes, L. M., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 2

Archæological Collections, Scientific Instruments.

- 92ⁿ Cleneay, Thomas, Cincinnati, O.—Stone implements and pottery. V 63. 312
- 92^o Giauque, Florian, Cincinnati, O.—Flint, stone, shell, and bone implements and ornaments. V 63. 312
- 92^p Mercer, R. W., Cincinnati, O.—Pottery from mounds of Ohio. V 63. 312
- 92^q Hill, H. H., Cincinnati, O.—Flint, stone, bone, and copper implements and ornaments, pottery, etc. V 63. 312
- 92^r Hosea, L. M., Cincinnati, O.—Flint and stone implements and ornaments, pottery, etc. V 63. 312
- 92^s Simerell, C. B., Cincinnati, O.—Flint, stone, shell, and bone implements and ornaments. V 63. 312
- 92^t Hawley, R. E., Cleveland, O.—Flint and stone implements and ornaments. V 63. 312
- 92^u Freeman, L. R., Cincinnati, O.—Pottery, stone, and flint implements and ornaments. V 63. 312
- 92^v Johnson, J. M., Mt. Union, O.—Stone implements. V 63. 312
- 92^w Larkins, John F., West Mansfield, O.—Stone implements. V 63. 312
- 92^x Smucker, Isaac, Newark, O.—Flint and stone implements and ornaments, casts and photographs. V 63. 312
- 92^y Read, M. C., Hudson, O.—Flint and stone implements and ornaments, casts and photographs. V 63. 312
- 92^z Chase, G. W., Newark, O.—Photographs and drawings of mounds, stone images and implements. V 63. 312
- 92^a Zane, Carbon, Mifflin, O.—Stone and flint implements. V 63. 312
- 93 State Archæological Association of Ohio.—Relics of pre-historic races and Indians of Ohio. V 63. 312
- 93^a Dickeson, M. W., Philadelphia, Pa.—Mound relics. T 68. 312
- 93^b Western Reserve Historical Society, Cleveland, O.—Relics of Indians and pre-historic races of Ohio. V 61. 312
- 93^c Anderson, Marshall, Circleville, O.—Flint and stone implements, etc. V 63. 312

Scientific and Philosophical Instruments and Methods.

- 94 Kuebler, Wm., Philadelphia, Pa.—Surveyors' and engineers' instruments; mining transit. N 60. 320
- 94^a Wilder, Charles, Peterborough, N. H.—Thermometers and portable barometers. N 78. 320
- 95 Kuhnelt, Paul, New York, N. Y.—Terrestrial and celestial planisphere globe. N 56. 320
- 96 Ritchie, E. S., & Sons, Boston, Mass.—Philosophical and nautical instruments. N 57. 320
- 96^a Blanck, G., New York, N. Y.—Parallel rule. N 54. 320
- 97 Keuffel & Esser, New York, N. Y.—Drawing instruments, models, and machinery for scientific schools. N 57. 320
- 98 Rogers, Wm. A., Assistant, Harvard College Observatory, Cambridge, Mass.—Automatic machines for ruling microscopic lines on glass or metals; for grinding and polishing ruling diamonds; for polishing parallel surfaces on glass;

- for dividing any unit into equal parts; microscope, specimens of diamond and etched rulings on glass, and water motor. N 55. 320
- 98^a Allen, Horatio, South Orange, N. J.—Astronomical instruments. P 78. 320
- 99 Clum, H. A., Elmira, New York, N. Y.—Aëliograph or storm writer for pre-determining storms. N 60. 320
- 99^a Leete, Isaac P., Branford, Conn.—Atomizer and vaporizer. N 70. 320
- 100 Muller's Sons, Nicholas, New York, N. Y.—Thermometers. P 76. 320
- 101 Benjamin, E. B., New York, N. Y.—Chemical glass and porcelain wares; rare chemical and assaying implements; tools for blowpiping; students' sets; Geissler tubes and physical apparatus. N 57. 320
- 103 Gurley, W. & L. E., Troy, N. Y.—Civil engineers', land surveyors', and mining engineers' instruments and apparatus. N 56. 320
- 104 Lowe, N. M., Boston, Mass.—Terrestrial orrery, graphic hygrometer. N 55. 320
- 105 Prentice, James, New York, N. Y.—Engineers' and surveyors' instruments. N 58. 320
- 106 Heller & Brightley, Philadelphia, Pa.—Surveying, engineering, mathematical, optical, and astronomical instruments. N 59. 320
- 107 Alteneeder, Theodore, Philadelphia, Pa.—Joint draughting instruments, protractors, triangles, and drawing scales. N 58. 320
- 108 Fauth, C., & Co., Washington, D. C.—Astronomic, geodetic, and scientific instruments; equatorial-universal alt-azimuth, theodolites, levels, etc. N 57. 320
- 109 Tarr, Henry S., & Son, Philadelphia, Pa.—Dry level; plumb and level combined. N 57. 320
- 110 Bahmann Bros., New York, N. Y.—Hydrometers, thermometers, and chemical glass instruments. N 58. 320
- 111 Schlotterbeck, A. S., Portland, Me.—Thermometer. N 58. 320
- 112 Tagliabue, Giuseppe, New York, N. Y.—Recording barometer, thermometer, and rain gauge; pyrometers, milk tester, hydrometers. N 58. 320
- 113 Kroedel, Franz, New York, N. Y.—Chorometer for surveying. (*West Gallery*.) N 58. 320
- 114 Knox & Shain, Philadelphia, Pa.—N 57. 320
- ^a Engineering instruments. 320
- ^b Telegraph instruments. 326
- 115 Young's, Wm. J., Sons, Philadelphia, Pa.—N 59. 320
- ^a Astronomical circle, equatorial sextant, transits. 320
- ^b Telescopes. 324
- 116 Riggs & Bro., Philadelphia, Pa.—N 58. 320
- ^a Ships' binnacles and logs. 320
- ^b Watchmen's clocks, balance springs for chronometers and watches. 323
- 117 Queen, Jas. W., & Co., Philadelphia, Pa.—N 55. 320
- ^a Mathematical and drawing instruments and accessories for students and professional men. 324
- ^b Microscopes. 324

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific and Philosophical Instruments.

- 118 Bliss, John, & Co., 110 Wall street, New York, N. Y.—N 52.
 a Ships' logs, register fastened to taffrail; rotator attached and towed astern. 320
 b Marine chronometers, entirely American manufacture, with auxiliary compensation; watchmakers' portable transit instruments, for obtaining correct time. 323
 term. 320
- 119 Deakin, Robt. T., Philadelphia, Pa.—N 58.
 a Philosophical instruments, mandrel-drawn tubes. 320
 b Green-house syringes; portable fire engine and garden pump. 720
- 120 Watts & Co., Baltimore, Md.—N 61.
 a Scientific apparatus. 320
 b Electrical apparatus. 325
 c Telegraphic apparatus. 326
- 121 Stewart, A., Philadelphia, Pa.—
 Fare controller and indicator; mechanical instruments. N 56. 321
- 121a Pottin Register Manufacturing Co., Philadelphia, Pa.—Registers for cars, ferries, billiards, and money drawers. P 57. 321
- 122 Darling, Brown, & Sharpe, Providence, R. I.—Rules, try squares, wire gauges, and tools for accurate measurements. P 70. 322
- 123 Eddy, Geo. M., & Co., Brooklyn, N. Y.—Measuring tapes of cotton, linen, and steel. N 57. 322
- 124 Mains Manufacturing Co., New York, N. Y.—Petroleum tester. N 65. 322
- 125 Weaver, Henry M., Mansfield, O.—Automatic balance scales. N 56. 322
- 126 Juvet, L. P., Glen's Falls, N. Y.—Time globe. N 55. 323
- 127 Tiffany & Co., New York, N. Y.—Watches. N 41. 323
- 127a Hietel Bros., Philadelphia, Pa.—Spring lever for watch escapement. N 58. 323
- 128 Elgin National Watch Co., Elgin, Ill.—Watch movements and materials. P 67. 323
- 128a Galena Oil Works (limited), Franklin, Pa.—Oil well clock. P 47. 323
- 129 Seth Thomas Clock Co., Thomaston, Conn.—Clocks. N 65. 323
- 130 Hagstoz & Thorpe, Philadelphia, Pa.—Stiffened gold watch cases. P 43. 323
- 131 American Watch Co., Waltham, Mass.—Watches and watch movements, gold and silver watch cases, watch materials. P 67. 323
- 132 Mehr, Geo., 1218 Hutchinson street, Philadelphia, Pa.—Patent sun dials made of marble, showing time of day, and distance of nineteen cities from Philadelphia. (Outside.) 323
- 134 Ithaca Calendar Clock Co., Ithaca, N. Y.—Perpetual calendar clock. N 66. 323
- 135 Teske, Charles, Saratoga Springs, N. Y.—Watch regulator. N 56. 323
- 136 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and nickel movement clocks. N 57. 323
- 137 Spellier, Louis H., Doylestown, Pa.—Regulator, with new mode of hanging the pendulum, and anchor pin escapement. N 55. 323
- 138 Empire City Watch Co., Jersey City, N. J.—Watches, watch movements, and watch materials. N 55. 323
- 139 Fasoldt, Charles, Albany, N. Y.—Astronomical tower clock. N 56. 323
- 140 Elson, Julius, Boston, Mass.—Safety attachments and regulators for watches. N 56. 323
- 141 Lapp, Ferd., Detroit, Mich.—Carved black walnut clock case. N 56. 323
- 142 Fortenbach & Sons, Carlstadt, N. J.—Silver watch cases. N 55. 323
- 143 Paulus, E., Philadelphia, Pa.—Watches and clocks. N 55. 323
- 144 Hummel, Alois, Baltimore, Md.—Musical clock. N 66. 323
- 145 Robbins, Clark & Biddle, Philadelphia, Pa.—Watches, clocks. N 43. 323
- 146 Gropengiesser, Jno. L., Philadelphia, Pa.—Astronomical clock. N 56. 323
- 148 E. N. Welch Manufacturing Co., Forestville, Conn.—Clocks. N 65. 323
- 149 New Haven Clock Co., New Haven, Conn.—Clocks. N 65. 323
- 150 Imhauser & Co., New York, N. Y.—Watchman's time detector. This watch clock, which is fastened at the watchman's beat, is supplied with twelve keys. In making his rounds, the watchman inserts the keys in the watch, which will perfectly show his movements. N 56. 323
- 151 Bacon, B. H., Philadelphia, Pa.—Lunar clock. N 56. 323
- 152 Mitchell, Vance, & Co., New York, N. Y.—Clocks. N 49. 323
- 153 Pequinot, C. & A., Philadelphia, Pa.—Watches and watch cases. N 63. 323
- 154 Hahl, A., & Co., Baltimore, Md.—Electric clocks, bells, indicators, burglar alarms, tower clocks. N 63. 323
- 155 Wheeler, Marshall, Big Rapids, Mich.—Solar chronometer. N 52. 323
- 156 Schenck, John H., New York, N. Y.—Illuminated clock, "phantasmagoria." N 66. 323
- 157 Hill, J. W., Waterville, Kansas.—Clock that will run 100 years without winding, with a new escapement. With this escapement clocks can be made that will run the longest time, and with least machinery, and be perfectly accurate. (Kansas Building.) 323
- 158 Wilson, T. A., & Co., Reading, Pa.—Steel spectacle and eyeglass frames; lenses for optical purposes. N 58. 324
- 158a Black, L., & Co., Detroit, Mich.—Spectacles and eye glasses. N 64. 324
- 159 Zentmayer, Joseph, Philadelphia, Pa.—Microscopes and accessories. N 58. 324
- 159a Beatty, George D., Baltimore, Md.—Microscopical slides, showing vegetable tissue. T 50. 324
- 160 Bausch & Lomb Optical Co., Rochester, N. Y.—Optical instruments, lenses, etc. N 55. 324
- 161 Wales, W., Fort Lee, N. J.—Microscope object glasses, with back for photographing; photomicrographs. N 59. 324

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Scientific and Philosophical Instruments.

- 162 Weiskopf, E., New York, N. Y.—Lenses for solar printing, lenses for magic lanterns, lenses and laryngoscopes and ophthalmoscopes; mirrors for eye, ear, and throat; instruments for dentists, and microscopes. N 57. 324
- 163 Spencer Optical Manufacturing Co., New York, N. Y.—Optical lenses, spectacles, and eyeglasses. N 59. 324
- 164 Edgerton, N. H., Philadelphia, Pa.—Philosophical instruments, stereopticons and slides; self-condensing gas cylinders. N 58. 324
- 165 Diamond, J., Pittsburg, Pa.—Spectacles and eyeglasses; Russian pebbles. N 56. 324
- 165a Miller Bros., New York, N. Y.—Microscope and specimens. P 47. 324
- 166 Walmsley, W. H., Philadelphia, Pa.—Microscopic preparations. N 55. 324
- 167 American Optical Co., Southbridge, Mass.—Spectacles and eyeglasses. N 57. 324
- 168 Yale Lock Manufacturing Co., Stamford, Conn.—Anodes for nickel-plating. P 72. 325
- 168a Pulvermacher Galvanic Co., Cincinnati, O.—Electro-galvanic appliances, etc., for medical purposes. N 55. 325
- 169 Bryan, Jas. C., Philadelphia, Pa.—Magnetic and magneto-electrical lighting rods. N 63. 325
- 169a Gardiner, Samuel, Washington, D. C.—Electrical gas lighting apparatus. T 64. 325
- 170 Reyburn, Hunter, & Co., Philadelphia, Pa.—Lightning rods, points, and fixtures. N 62. 325
- 170a Garratt, Alfred, Boston, Mass.—Electric disc. N 55. 325
- 171 Kidder, Jerome, New York, N. Y.—Electro-medical apparatus. A gold medal of progress was awarded to Dr. Kidder at the fair of the American Institute, in the fall of 1875, for the "best electro-magnetic machine." For illustrated catalogue, address Dr. Jerome Kidder, northeast corner of 17th street and 4th avenue, New York. N 56. 325
- 172 Patrick & Carter, Philadelphia, Pa.—Telegraph sounders, learners' apparatus, hotel annunciators, Philadelphia relay, electric bells, and burglar alarms. N 64. 325
- 173 Fleming & Talbot, Philadelphia, Pa.—Electrical instruments and batteries for physicians and surgeons. N 63. 325
- 175 Cornish, Thos. E., Philadelphia, Pa.—Electric burglar alarm, annunciators, bell calls, clocks, batteries, gongs, wire, etc. N 64. 325
- 177 Munson, David, Indianapolis, Ind.—Lightning rods. N 59. 325
- 178 Western Electric Manufacturing Co., Chicago, Ill.—Electrical apparatus, electro-physical, medical, and harmonic instruments, annunciators, railway signals, etc. N 60. 325
- 179 Lafin & Rand Powder Co., New York, N. Y.—Electrical blasting apparatus. H. Julius Smith's patents. Novel and perfect adaptation. N 62. 325
- 180 Brittain, R. J., Hedenberg Works, Newark, N. J.—Electro-medical instruments. N 65. 325
- 181 Paoli Belt Co., New York, N. Y.—Electro-voltaic chain belt. N 61. 325
- 181a Buckman, Ira, Brooklyn, N. Y.—Annunciators. N 68. 325
- 182 Galvano-Paradic Manufacturing Co., New York, N. Y.—Electrical instruments for medicinal use. N 57. 325
- 183 Launert & Decker, Cleveland, O.—N 60. 325
a Indicating annunciators and burglar alarm. 325
b Alphabetical telegraph instruments. 326
- 183a Finger, Hare, & Co., Boston, Mass.—Electro-magnetic annunciator. N 78. 325
- 184 McCormick, James, Philadelphia, Pa.—Burglar alarm and door fastener. H 72. 325
- 185 National Fire Alarm Telegraph Co., Richmond, Ind.—System of fire alarm and police telegraph. N 65. 326
- 186 Holmes Burglar Alarm Telegraph Co., New York, N. Y.—Bank vault and safe protector, burglar alarm telegraph, electric hotel and house annunciator, electrical bells. N 64. 326
- 187 Brooks, David, Philadelphia, Pa.—Underground cables for telegraph lines. (Nave.) 326
- 188 Edison, Thos. A., Newark, N. J.—Roman letter, etheric, domestic, automatic, and quadruplex telegraph; electromograph, doubler, and electric pen. N 63. 326
- 188a Cleveland Lightning Rod Co., Garrettsville, O.—Lightning rods, vanes, and ornaments. (Ohio Building.) 326
- 189 Dowden, Geo. A., Newark, N. J.—Burglar alarm and automatic annunciator. N 65. 326
- 189a American District Telegraph Co., Philadelphia, Pa.—Telegraph signal boxes. (Nave.) 326
- 190 Henry, D. F., Chief Engineer Water Works, Detroit, Mich.—Model of subaqueous tunnel; telegraphic current meter; flexible jointed water pipe. P 65. 326
- 190a Gamewell, John N., New York, N. Y.—Fire alarm telegraph signal boxes. (Nave.) 326
- 191 Rice, Jas. D., Philadelphia, Pa.—Lightning rods and points. N 66. 326
- 191a Gray & Barton Western Electric Telegraph Co., Chicago, Ill.—Printing telegraph instrument. (Nave.) 326
- 192 Atlantic & Pacific Telegraph Co., Philadelphia, Pa.—Automatic and duplex telegraphic apparatus. (Nave.) 326
- 193 Phillips, Eugene F., Providence, R. I.—Patent flexible gas-tight tubing; patent insulated telegraph wires. N 51. 326
- 193a Phillips, W. J., Philadelphia, Pa.—Printing telegraph instruments. (Nave.) 326
- 194 Vigneron, Charles, Providence, R. I.—Piano insulator. N 58. 326
- 194a Lockwood, Brooks, & Co., Boston, Mass.—Computing telegraph. P 47. 326
- 195 Welch & Andres, Boston, Mass.—Magneto-printing and dial telegraph instruments; watchman's time recorders. 326
61. 326

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific, Philosophical, Musical Instruments.

- 195^a Gray, Elisha, Chicago, Ill.—Electro-harmonic telegraph. (*Naval*) 326
- 196 Watkins, Wm. B., New York, N. Y.—Automatic fire and burglar telegraph and fire extinguisher; electric thermostats, fire signal boxes, duplex telegraph. N 59. 326
- 196^a Bell, A. Graham, Boston, Mass.—Electro-harmonic telegraph. N 64. 326
- 197 Western Union Telegraph Co., New York, N. Y.—Telegraphic apparatus. N 63. 326
- 197^a Frost & Hanline, Philadelphia, Pa.—Automatic thermostat for fire alarm telegraph. (*Naval*) 326
- 198 Day, Austin G., office, 120 Broadway, New York, N. Y.—Kerite insulated telegraph wire and cables; Kerite battery cups; electrical battery. Manufacturer of Kerite insulated telegraph wire and cables. Do not require protection from long exposure in hot climates in the air, earth, or water, or from the corrosive action of acids, alkalies, oils, or gases. Can be kept on storage for a long term of years without deterioration. N 63. 326
- 199 White, Samuel S., Philadelphia, Pa.—Electro-harmonic telegraph. N 65. 326
- 200 Coston, Wm. F., Philadelphia, Pa.—Application of Coston night signal to the International and N. Y. Yacht Club codes. H 68. 326
- 201 Colton, Martha J., Philadelphia, Pa.—Telegraphic night signal for use on land and sea. H 68. 326
- 202 Hale, B. S., & Co., Lawrence, Mass.—Electric wire. N 75. 326
- 203 Otto, John William, St. Louis, Mo.—Piano. P 60. 327
- 203^a Siebenhüner, Anton, New York, N. Y.—Violins and bows. P 64. 327
- 204 Pfaff, John, Philadelphia, Pa.—Clarionets, ivory flute, tail piece for violin, tuning pipe. P 66. 327
- 204^a Greiner, Geo., Philadelphia, Pa.—Piano. N 64. 327
- 205 Martin, C. F., & Co., Nazareth, Pa.—Guitars. P 59. 327
- 206 Pratt, Read, & Co., Deep River, Conn.—Ivory combs, piano forte and organ keys, ivory veneers, and other ivory goods. P 62. 327
- 206^a Monroe Organ Reed Co., Worcester, Mass.—Organ reeds and organ material. P 59. 327
- 207 Burdett Organ Co., Erie, Pa.—Burdett organs. P 64. 327
- 207^a Boulanger, Louis, St. Louis, Mo.—Violin. T 60. 327
- 208 Meyer, Conrad, & Sons, Philadelphia, Pa.—Square piano fortes, original iron-plate frame piano, Conrad Meyer inventor, 1833. P 65. 327
- 209 Schomacker Piano Co., Philadelphia, Pa.—Square and concert grand, square, and upright pianos. N 67. 327
- 210 Hallet, Davis, & Co., Boston, Mass.—Orchestral, concert, and parlor grand, upright, and square grand pianos. N 61. 327
- 211 Miller, Henry F., Boston, Mass.—Piano fortes. N 65. 327
- 212 Zimmermann, C. F., Philadelphia, Pa.—Musical instruments. N 63. 327
- 213 Albert, Chas. F., Philadelphia, Pa.—String quartet, violins, chin and cello rests, wrapped strings, guitars, a Stradivarius and a Guarnerius violin. P 62. 327
- 214 Mason & Hamlin Organ Co., Boston, Mass.—Cabinet organs. P 66. 327
- 215 Albert, John, Philadelphia, Pa.—String quintet, violins made by Albert's machine. P 62. 327
- 216 Seefeldt, Wm. F., Philadelphia, Pa.—Brass and German silver musical instruments. P 59. 327
- 217 Ingalls, W. G., & Co., Worcester, Mass.—Reeds, reed boards, and valves for organs. P 58. 327
- 218 Estey, J., & Co., Brattleboro', Vt.—Organs. Call special attention to,—1st, elegance and solidity of their structure; 2d, durability of manufacture throughout; 3d, richness, sweetness, and pipe-like quality of tone; 4th, number of organs manufactured and sold; 5th, reputation throughout the world, highest endorsement by such artists as Rubinstein, Wilhelmj, Abt, Lucca, Joachim, Freyer, Kucken, Czerny, Ole Bull, Saint-Saëns, Tinel, and many others. P 63. 327
- 219 Dolge, Alfred, New York, N. Y.—Piano forte and polishing felts; spruce sounding-board material. P 66. 327
- 220 Faas, Anthony, Philadelphia, Pa.—Pianos. P 64. 327
- 221 Waters, Horace, & Sons, New York, N. Y.—Organs. P 64. 327
- 222 Roosevelt, H. F., New York, N. Y.—Organs, hydraulic engines, and other blowing apparatus. (*North gallery*) 327
- 223 Calender, Vaupel, & Co., New York, N. Y.—Piano fortes. P 64. 327
- 224 Hazleton Bros., New York, N. Y.—Grand, cabinet grand, upright, and square pianos. N 64. 327
- 224^a Eisel, M., St. Louis, Mo.—Piano movement. V 60. 327
- 225 Albrecht & Co., 610 Arch street, Philadelphia, Pa. (Charles Albrecht, Frederick Riekes, Edmund Wolsieffer)—Piano manufacturers of first-class, grand, square, and upright pianos. Prices low, for cash, and five years' guarantee. P 68. 327
- 225^a Hamlin, Emmons, Boston, Mass.—Violins. T 66. 327
- 226 Woods, Geo., & Co., Cambridgeport, Mass.—Organs. P 61. 327
- 227 Gemunder, Geo., Astoria, N. Y.—Stradivarius quartet, one Stradivarius, and one Guarnerius violin. P 59. 327
- 228 Dürner, Chas. F., Quakertown, Pa.—Church organ. P 61. 327
- 229 Shoninger, B., Organ Co., New Haven, Conn.—Reed organs. Manufacturers of reed organs for churches and families, with all improvements, embracing a stool, a chime of bells, which make the instrument very complete. N 68. 327
- 230 Steinway & Sons, New York, N. Y.—Grand, upright, and square piano fortes. P 66. 327
- 231 Decker Bros., New York, N. Y.—Concert and parlor grand, upright, and square piano fortes. P 67. 327

For location of objects, indicated by letter and figure, see Key to Notation, p. 25: ground plan, p. 26

Musical Instruments.

- 232 Lehnert, Henry G., Philadelphia, Pa.**—Improved brass instruments, for bands and orchestras. P 64. 327
233 Goldsmith, Jonas G., New York, N. Y.—Square piano forte. P 64. 327
234 Bacon & Kair, New York, N. Y.—Square and upright pianos. P 62. 327
235 Neff, James, Philadelphia, Pa.—Quartette of musical stringed instruments. P 64. 327
236 United Piano Makers, Brooklyn, N. Y.—Grand, upright, and square pianos. P 64. 327
237 Hospe, C. J., Philadelphia, Pa.—Grand, square, and upright pianos, and parlor organs. P 64. 327
238 Manhattan Piano Forte Co., New York, N. Y.—Piano fortes. This company, composed of practical mechanics, was established 1863. Their pianos are admired by every one for their sweet and powerful tone, as well as the pleasing touch they possess. P 63. 327
239 Emerson Piano Co., Boston, Mass.—Upright and square pianos. P 63. 327
240 Oldendorf, Henry, New York, N. Y.—Bass and snare drums. P 59. 327
241 Quaker City Organ Co., Philadelphia, Pa.—Cabinet organs. P 63. 327
242 Newman, Edward G., New York, N. Y.—Square grand pianos. N 63. 327
243 Peloubet, Pelton, & Co., New York, N. Y.—Reed organs. The standard organs here shown are exhibited as specimens of the daily work of the manufacturers. P 65. 327
244 Ivers, W. H., Dedham, Mass.—Piano. P 65. 327
244½ Jeanison, Wm. A., Camden, Miss.—Violin. P 62. 327
245 Nicholls, Reuben, Philadelphia, Pa.—Church organ, with pneumatic action. Composition, balance swell, crescendo and diminishing pedals, never before introduced. P 66. 327
246 Lehnert, Carl, Boston, Mass.—Cymbals and gongs, Turkish and Chinese combination of metals. P 62. 327
247 Ohio Valley Piano Co., Ripley, Ohio.—Pianos. P 63. 327
248 Cummins, Henry, New York, N. Y.—Violin. P 62. 327
249 Robbins & Appleton, New York, N. Y.—Gold and silver watch cases. P 67. 327
251 Hinds & Sons, Newark, N. J.—Piano fortes. N 63. 327
252 Wing, F. L., & Hill, F. M., New York, N. Y.—Dolce piano forte, without strings; organ. T 59. 327
253 McFadden, George, Syracuse, N. Y.—Cornets and trombones. P 63. 327
254 Moeller, A., Hartford, Conn.—Upright piano. P 63. 327
255 Simpson & Co., New York, N. Y.—Square and upright piano fortes. P 64. 327
256 Oemunder, August, New York, N. Y.—Four-stringed double bass. P 59. 327
257 Sohmer & Co., New York, N. Y.—Upright and square piano fortes. P 62. 327
258 McDonald, Jas., Williamsport, Pa.—Square grand piano fortes. P 63. 327
259 Dobson, Mrs. Louisa, New York, N. Y.—Banjo. P 65. 327
260 Haines Bros., New York, N. Y.—Grand, square, and upright piano fortes. P 62. 327
261 Steck, George, & Co., New York, N. Y.—Grand, square, and upright pianos. N 60. 327
262 Hardman, Hugh, New York, N. Y.—Grand, square, and upright piano fortes. N 62. 327
263 Weber, Albert, New York, N. Y.—Concert and parlor grand, upright, and square pianos. N 66. 327
264 Wildman, L. P., Danbury, Conn.—Violins. P 59. 327
265 United States Piano Co., New York, N. Y.—Piano forte. P 62. 327
266 Knabe, Wm., & Co., Baltimore, Md.—Grand, square, and upright pianos; a harpsichord made by Tschudi & Broadwood for Chas. Carroll of Carrollton. P 60. 327
267 Berry, James B., Boston, Mass.—Square and grand piano fortes. P 62. 327
268 Stieff, Chas. M., Baltimore, Md.—Grand, square, and upright pianos. N 64. 327
269 New Haven Organ Co., New Haven, Conn.—Organs. P 64. 327
270 Hook, E. & G. G., & Hastings, Boston, Mass.—Grand concert, chapel, and church organs. (*East Gallery.*) 327
271 Knauff, Theodore O., Philadelphia, Pa.—Mechanical and pipe organs. (*Outside.*) 327
272 Hinzén & Rosen, Louisville, Ky.—Piano. P 64. 327
273 Wessell, Nickell & Gross, New York, N. Y.—Piano. P 64. 327
274 Perry, J. R., Wilkesbarre, Pa.—Organs; testing and tuning box for reed organs. P 64. 327
275 Rogers Upright Piano Co., Boston, Mass.—Upright pianos. The mechanical principles employed secure claims for this instrument of the greatest utility and practical importance to musicians and amateurs. P 65. 327
276 Perrot, Auguste, Philadelphia, Pa.—Tonognome, a portable melodeon. P 59. 327
277 Watson, J. Jay, New York, N. Y.—Violin and violin strings. P 59. 327
278 Chickering & Sons, Boston, Mass.—Piano fortes. P 61. 327
279 Wellenberger, Jos., & Ganter, New York, N. Y.—Orchestration or self-acting organ. P 65. 327
280 Mortimer, John R., New York, N. Y.—Pneumatic exhaust palate for organs. P 63. 327
281 Behning & Diehl, New York, N. Y.—Grand square pianos. N 63. 327
282 Benham Organ Co., Indianapolis, Ind.—Cabinet organs. P 62. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Musical Instruments, Engineering Designs.

283 Mathushek Piano Manufacturing Co., New Haven, Conn.—Pianos. P 59. 327

284 Smith, B. N., & Co., New York, N. Y.—Carved piano legs and lyres. P 59. 327

285 Secor, Jerome B., Bridgeport, Conn.—Automaton singing birds in cages and vases. T 48. 327

286 Kranich & Bach, New York, N. Y.—Grand, upright, and square piano fortes. N 63. 327

287 Clough & Warren Organ Co., Detroit, Mich.—Parlor organ. P 63. 327

288 Missenharter, Chas., New York, N. Y.—Excelsior musical instruments. P 64. 327

289 Kompff, Ph., New York, N. Y.—Military drums, banjos, and tambourines. P 62. 327

290 Lighte & Ernst, New York, N. Y.—Grand square piano fortes. P 65. 327

291 Willis, Aug. L., Philadelphia, Pa.—Octave coupler for piano fortes. H 71. 327

292 Browne & Buskewell, New York, N. Y.—Grand concert double action harp and music desk. P 63. 327

293 Conn & Dupont, Elkhart, Ind., Musical instruments for bands; improved mouthpieces for band instruments. P 61. 327

294 Boston Musical Instrument Manufactory, Boston, Mass.—Brass band musical instruments. P 64. 327

295 Schindler, C. A., New York, N. Y.—Piano stools. P 63. 327

296 Taylor & Farley Organ Co., Worcester, Mass.—Cabinet and church reed organs. P 58. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

297 Lowthorp, Francis C., Trenton, N. J.—Photographs of iron bridges erected, plans of wrought iron bridge and turn tables. T 67. 330

297a Barnum, Richardson, & Co., Lime Rock, Conn.—Drawings relating to various works. (West Gallery.) 330

298 American Bridge Co., Chicago, Ill.—Model of rigid suspension bridge, details of construction, photographs and drawings. T 67. 330

298a Carroll, Francis, New Orleans, La.—Model of automatic damper for gas furnaces. (West Gallery.) 330

299 Clarke, Reeves, & Co., Phoenixville Bridge Works, Philadelphia, Pa.—Photographs and models of bridges, viaducts, and other iron structures actually executed. (West Gallery.) 330

299a Philadelphia & Reading R.R. Co., Philadelphia, Pa.—Bridge models, etc. V 53. 330

300 Pettit, Henry, & Wilson, Jos. M., Engineers and Architects, Philadelphia, Pa.—The Main Exhibition building, Machinery Hall and adjacent boiler houses for the International Exhibition, 1876. (N Park.) 330

300a Thomas Iron Co., Hokendauqua, Pa.—Drawings relating to iron works. (West Gallery.) 330

301 King Iron Bridge & Manufacturing Co., Cleveland, O.—Wrought iron highway bridge between Horticultural Hall and Art Gallery. 330

301a North Chicago Rolling Mill Co., Chicago, Ill.—Drawings relating to various works. (West Gallery.) 330

302 Pearsons, G. W., Ogdensburg, N. Y.—Model of standpipe and turbine wheel. (West Gallery.) 330

303 Pettit, Henry, Philadelphia, Pa.—Bridges and bridge construction. (West Gallery.) 330

304 Wilson, Jos. M., Philadelphia, Pa.—Bridge and bridge construction. (West Gallery.) 330

305 Centennial Commission of the American Society of Civil Engineers of the United States.—Papers, drawings, photographs, and models of engineering in America. (West Gallery.) 330

306 Chanute, Octave, New York, N. Y.—Engineering exhibits relating to bridges and bridge construction. (West Gallery.) 330

306a Morrison, E. H., Boonton, N. J.—Model and drawings relating to various works. (West Gallery.) 330

307 Croes, J. James R., Yonkers, N. Y.—Engineering exhibits relating to water works. (West Gallery.) 330

307a Morris, R. C., Nashville, Tenn.—Plans of early and late bridges in the Southern States. (West Gallery.) 330

308 Herring, Rudolph, Philadelphia, Pa.—Plans of bridges, with photographs showing progress; section of sewers of Philadelphia. (West Gallery.) 330

308a McDonald, Charles, New York, N. Y.—Drawings and photographs of various iron bridges. (West Gallery.) 330

309 Chester, Stephen, New York, N. Y.—Exhibit relating to electrical engineering. (West Gallery.) 330

309a Pearse, J. B., Philadelphia, Pa.—Drawings relating to various works. (West Gallery.) 330

310 Linville, J. H., Philadelphia, Pa.—Bridges and bridge construction. (West Gallery.) 330

310a Phoenix Iron Co., Philadelphia, Pa.—Drawings relating to various works. (West Gallery.) 330

311 Clark, Reeves, & Co., Philadelphia, Pa.—Bridges and bridge construction. (West Gallery.) 330

311a Johnson, J., La Salle, Ill., Drawings relating to various works. (West Gallery.) 330

312 Rockwood, Geo. F., New York, N. Y.—Photographs showing successive stages of engineering construction. (West Gallery.) 330

312a Fowler, Charles E., New Haven, Conn.—Plans, sections, and details of the sewerage and drainage system of New Haven and other public works. (West Gallery.) 330

313 Cresier, D. W. C., Chicago, Ill.—Model of hydrant and stopcock. (West Gallery.) 330

313a Bethlehem Iron Co., Bethlehem, Pa.—Drawings relating to various works. (West Gallery.) 330

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Engineering Designs.

- 314** Jervis, John B., Rome, N. Y.—Engineering drawings, relating to construction of canals; Carbondale railroad and Croton aqueduct. (*West Gallery.*) 330
- 314a** Severt, Wm. A., Syracuse, N. Y.—Drawings relating to various works. (*West Gallery.*) 330
- 314b** Cox, E. T., Indianapolis, Ind.—Drawings relating to various works. (*West Gallery.*) 330
- 314c** Dudley, P. H., Cleveland, O.—Drawings relating to various works. (*West Gallery.*) 330
- 314d** Drinker, Henry S., Philadelphia, Pa.—Drawings relative to tunnel excavation and timbering. (*West Gallery.*) 330
- 315** Foster, Wilbur F., Nashville, Tenn.—Model of Howe truss bridge. (*West Gallery.*) 330
- 316** Armington, James H., Brooklyn, N. Y.—Exhibit relating to gas engineering. (*West Gallery.*) 330
- 316a** Smedley, Samuel L., Philadelphia, Pa.—Drawings of Public Works in the City of Philadelphia. (*West Gallery.*) 330
- 316b** Davis, E. T. C., Pottsville, Pa.—Drawings and photographs relating to various works. (*West Gallery.*) 330
- 316c** Darrach, S. A., East Orange, N. J.—Drawings relating to the Water Works of Philadelphia. N 58. 330
- 316d** Canfield, Frederic A., Dover, N. J.—Drawings relating to various works. (*West Gallery.*) 330
- 316e** Grant, Wm. A., New York, N. Y.—Topographical map of recent additions to New York City, with proposed street and avenue plans. (*West Gallery.*) 330
- 317** Thurston, Robert M., Hoboken, N. J.—Exhibit relating to mechanical engineering; detail drawings of machinery, etc., by Robert Fulton. (*West Gallery.*) 330
- 317a** Tarr, H. G. H., Orbesonia, Pa.—Stove plates cast in 1763 and 1792. (*West Gallery.*) 330
- 317b** Stanley, I. N., Brooklyn, N. Y.—Improved setting of retorts. (*West Gallery.*) 330
- 318** Ellis, Theo. G., Hartford, Conn.—Engineering exhibit relating to river and harbor improvement. (*West Gallery.*) 330
- 319** McAlpine, Wm. J., Albany, N. Y.—Engineering exhibits relating to canals and inland navigation. (*West Gallery.*) 330
- 320** Bowden, J. H., Wilkesbarre, Pa.—Drawings relating to various works. (*West Gallery.*) 330
- 321** Smith, Wm. Sooy, Maywood, Ill.—Engineering exhibit relating to foundations and masonry. (*West Gallery.*) 330
- 322** Shedd, J. Herbert, Providence, R. I.—Engineering exhibits relating to sewerage and sanitary purposes. (*West Gallery.*) 330
- 323** Briggs, Robert, Philadelphia, Pa.—Exhibits of illustrations and diagrams of ventilating fans. (*West Gallery.*) 331
- 323a** Thompson, D. M., Providence, R. I.—Pictures of cotton mill with description. (*West Gallery.*) 331
- 323b** Union Iron Co., Buffalo, N. Y.—Model relating to iron works. (*West Gallery.*) 331
- 323c** Wren, W. C., Brooklyn, N. Y.—Model of gas machinery. (*West Gallery.*) 331
- 323d** Witherbee, J. F., Port Henry, N. Y.—Drawings and models relating to iron works. (*West Gallery.*) 331
- 323e** Oxford Iron Co., Oxford, N. Y.—Drawings and photographs relating to iron works. (*West Gallery.*) 331
- 323f** Smith & Sayre, New York, N. Y.—Drawings of exhaustor engine, shafting, and other machinery for gas works. (*West Gallery.*) 331
- 323g** Paulding, Kemble, & Co., Cold Spring, N. Y.—Drawings relating to iron works. (*West Gallery.*) 331
- 323h** Prindle, F. C., Philadelphia, Pa.—Drawings of dredging machinery, and gunpowder pile driver. (*West Gallery.*) 331
- 323i** Patton, J. D., Norristown, Pa.—Drawings of machinery for burning petroleum gas on cars. (*West Gallery.*) 331
- 323j** Risdon Iron & Locomotive Works.—Drawings of hydraulic machinery. (*West Gallery.*) 331
- 323k** School of Mines of Columbia College, New York, N. Y.—Selected metallurgical drawings. (*West Gallery.*) 331
- 323l** Glendon Iron Co., Easton, Pa.—Drawings relating to iron works. (*West Gallery.*) 331
- 323m** Cambria Iron Co., Johnstown, Pa.—Drawings relating to iron works. (*West Gallery.*) 331
- 323n** Birkenbine, H. P. M., Philadelphia, Pa.—Drawings of combined high and low pressure pumping engine, portfolio of details and drawings. (*West Gallery.*) 331
- 323o** Hornig, Julius, Chicago, Ill.—Model of improved method of canal boat propulsion, with track and traction chain. (*West Gallery.*) 331
- 324** Shinn, Wm. P., Pittsburg, Pa.—Engineering exhibit relating to railroads and rolling stock. (*West Gallery.*) 332
- 324a** Nichols, H. K., Pottsville, Pa.—Model of rail splice. (*West Gallery.*) 332
- 324b** Bishop, D. E., New York, N. Y.—Models of special rail joint. (*West Gallery.*) 332
- 324c** Sandberg, C. P., London, England.—Drawings of standard rail sections. (*West Gallery.*) 332
- 325** Emery, Chas. E., New York, N. Y.—Drawings of marine engines and boilers; connected arch boiler; compound engine for Phoenix Iron Company. (*West Gallery.*) 334
- 325a** Gajot, E., Philadelphia, Pa.—Geological maps, sections, and pamphlets of the State of Michigan. V 67 to 69. 335
- 326** Hanging Rock Iron Region, Iron-
ton, O.—Geological map of the Ohio
portions of the Hanging Rock iron region.
(Presented by Mr. John Campbell.) 335
T 68.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

336 DEPT. III.—EDUCATION AND SCIENCE.

Engineering Designs, Gymnastic Apparatus, Benevolent Societies.

- 327 Earnshaw, Henry, Cincinnati, O.**—Photographs of parks and cemetery, water works machinery, reservoirs, and drawing of tunnel. (*West Gallery.*) 335
- 328 Cleveland, H. W. S., Chicago, Ill.**—Design (adopted) for improvement of South Park, Chicago. (*West Gallery.*) 335
- 329 Bowditch, Ernest W., Boston, Mass.**—Plans of proposed chain of parks for Boston; a cemetery, and a country estate. (*West Gallery.*) 335
- 330 Krause, H., New York, N. Y.**—Topographical maps. (*West Gallery.*) 335
- 331 Sibeth, Otto, New York, N. Y.**—Construction map New York Central Park. (*West Gallery.*) 335
- 332 Walling, H. T., Boston, Mass.**—Topographical maps and atlases. (*West Gallery.*) 335
- 333 Bogart, John, New York, N. Y.**—Engineering exhibit relating to park work, surveying, and geodesy. (*West Gallery.*) 335

Physical, Social, and Moral Condition of Man.

- 334 Health Lift Co. of New York, N. Y.**—Reactionary lift apparatus. P 62. 340
- 334a Lawrence, John N., New York, N. Y.**—Ten pin balls and sample pin. H 72. 340
- 335 Shibe, J. D., Philadelphia, Pa.**—Base balls. B 77. 340
- 335a Automatic Swing Co., St. Louis, Mo.**—Automatic swings. (*Outside space.*) 340
- 336 Reach & Johnston, Philadelphia, Pa.**—Base balls and sporting goods. B 75. 340
- 336a Wood, William, New York, N. Y.**—Model of gymnasium with apparatus. T 55. 340
- 337 Marsh, Jas. P., & Co., Chicago, Ill.**—Improved health lift. N 52. 340
- 337a Carr, W. B., & Co., Brooklyn, N. Y.**—Base balls. F 71. 340
- 338 Rice, S. W., & Co., New York, N. Y.**—Base and dead balls, uniforms, and sporting goods. B 75. 340
- 338a Knight, W. A., Worcester, Mass.**—Health lifts. B 74. 340
- 339 Hiester, Chas. Edward, Harrisburg, Pa.**—Exercising clubs of adjustable weight. N 50. 340
- 340 Leeds, Louis M., New York, N. Y.**—Diagrams and charts on ventilation. B 78. 342
- 341 Derrom, Andrew, Passaic, N. J.**—Workman's cottage. (*In Park.*) 342
- 342 Kasson, W. M., Department of Public Comfort. (North, South, and West Entrances.)** 342
- 343 Department of Public Comfort.**—Stationery, newspapers, periodicals, and photographs for sale. H 70 and N 6. 342
- 344 Rudolph & Walter, Camden, N. J.**—Buffet. T 41 to 47. 342
- 345 Department of Public Comfort.**—Cafe, Leland's. T 33 to 36. 342

- 345a Hinvest, Robert, New York, N. Y.**—Clamp and band for scouring masonry, hollow brick for ventilation, chimney top. (*Outside.*) 342
- 347 Centennial Safe Deposit Co., Philadelphia, Pa.**—Safes for the protection of valuables. N 65. 343
- 348 Scott, J. W., & Co., New York, N. Y.**—Foreign stamp albums. P 73. 344
- 349 Mayer, Moses, New York, N. Y.**—Collection of coins. T 72. 344
- 349a New York Catholic Protectory, New York, N. Y.**—Photographic views of the Protectory buildings. V 53. 346
- 350 Inventors' Protective & Benevolent Association of the United States, Pittsburg, Pa.**—Working models of inventions of members of the Association. (*West Gallery.*) 346
- 350a American Society for the Prevention of Cruelty to Animals, New York, N. Y.**—Deodands, or instruments used in torturing dumb animals, taken from offenders; banners and illustrations. D 79. 346
- 350b American Missionary Association, New York, N. Y.**—Map, showing location of institutions and mission stations in the United States, photographs of buildings, examination papers, catalogues. (*South Gallery.*) 348
- 351 Young Men's Christian Association of North America, Executive Committee, Richard C. Morse, Secretary, New York, N. Y.**—Map, pictures, and plans of Association buildings; reports, circulars, and other literature. (*South Gallery.*) 348
- 351a Dod, S. B., Hoboken, N. J.**—Bust of Col. John Sterns. (*West Gallery.*) 400
- 351b Shippen, W. W., Hoboken, N. J.**—Portraits of the Messrs. Stevens. (*West Gallery.*) 410
- 351c Miller, William J., Philadelphia, Pa.**—Engravings on whitening. 421
- 351d Camp, J. H., Philadelphia, Pa.**—Photographs of the drawing of Main Building and Machinery Hall. P 65. 430
- 351e Sweeney, Thomas S., Cleveland, O.**—Transparent photographic views in Ohio. (*Vestibule windows, Ohio State Building.*) 430
- 352 Heard & Sons, Cleveland, O.**—Architectural design of the Ohio State Building. 441
- 353 Pfeiffer, Carl, New York, N. Y.**—Design of New Jersey State Building. 441
- 354 Schwarzmanna, H. J., Philadelphia, Pa.**—Designs of Memorial Hall, Horticultural Hall, Judges' Pavilion, and Women's Pavilion. 441
- 355 Busby, Albert G., Philadelphia, Pa.**—Water motor for blowing organ bellows, etc. P 66. 502
- 356 Stokes & Parrish, Philadelphia, Pa.**—Passenger elevator. (*S. E. Central Tower.*) 503
- 357 Boston Hydraulic Motor Co., Boston, Mass.**—Hydraulic motors for blowing Hook & Hastings' organ in gallery at east end of nave. L 79 and E 79. 503
- 358 Byrns & Bryan, New York, N. Y.**—Ale pump. F 99. 505

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Railroad Cars, Vessels, Agricultural Products.

- 359 Pullman's Palace Car Co., Chi-**
 cago, Ill.—Gold and silver model of a Pull-
 man palace sleeping car. N 63. 571
360 Woodruff, Jonah, Philadelphia,
 Pa.—Silver model of sleeping car. N
 63. 571
361 Snow, J. H., Bucksport, Me.—
 Model ship. H 70. 594
362 Neilson, George, Philadelphia, Pa.
 —Model of the ship "Independence," of
 Philadelphia. (*Centre Aisle.*) 594
363 State of New Jersey (by Geo. H.
 Cook, State geologist, New Brunswick,
 N. J.).
 a Specimens of wood growing in New Jer-
 sey. T 70. 600
 b Fertilizers and soils. 681
364 Philadelphia & Reading R. R. Co.,
 Philadelphia, Pa.—Cereals. T 72. 620
365 Judy, W. W., St. Louis, Mo.—
 Game birds of Missouri, stuffed. T 60.
 635
366 Bene, Creighton, & Co., New York,
 N. Y.—Feathers. H 76. 653
367 Campbell, S. S., Cadiz, O.—
 Samples of wool. V 61 to 65. 667
368 Baylis, H., Cadiz, O.—Samples
 of wool. V 61 to 65. 666
369 Birney, M. L., Bowerstown, O.—
 Samples of wool. V 61 to 65. 667
370 Quigley, Albert, Cadiz, O.—
 Wool. V 61 to 64. 667
371 Jamison, W. W., Cadiz, O.—
 Wool. V 61 to 64. 667
372 Faxon & Wright, Philadelphia,
 Pa.—Samples of wool extracted from rags
 composed of cotton and wool, by a new
 process. P 43. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GREAT BRITAIN.

(South of Nave, Columns 23 to 38.)

Educational Books and Appliances.

Educational Systems, Methods, and Libraries.

- 1 Sunday-School Union, London.—Works for Sunday-schools.—Books, magazines, cards, reward tickets, illuminations, and large type texts, Sunday-school registers, roll books, librarian and minute books; Sunday-school newspaper. 300
- 3 Bartholomew, John, Edinburgh.—Maps. 300
- 7 Adams, Walter Marsham, London.—The problem of Pythagoras; coelometer for illustrating elementary astronomy; mensurator for solving triangles, etc. 302
- 8 Augener, George, & Co., London.—Editions of the classics and other printed music books. 302
- 8a Boosey & Co., London.—Band, choral, and household music. 302
- 9 Clark, Edward Podmore, Bath.—Military model apparatus for illustrating drill movements. 302
- 10 The British & Foreign Blind Association, for Promoting the Education and Employment of the Blind, London.—Writing frames, embossed books, and maps for the blind. 303
- 11 Dickinson & Higham, London.—The hexaglot Bible. 306
- 12 Dickes, William, London.—Chromo-lithography, engraving and photographic engraving, and photographic engraving and printing; framed oleographs, chromographs from stone and surface printing, wood engraving, photographic engraving, etc. 306
- 13 Scott, Robson John, London.—Blocks used for wood engravings; compound and bolted blocks of box and other woods. 306
- 14 Stephenson, Blake, & Co., Sheffield.—Specimens of printing types, book of specimens. 306
- 15 Ravenstein, Ernest George, Geographical Institute, London.—General and geological maps of New Zealand; physical and statistical atlas of United Kingdom; relief map of the United States; geographical and statistical works. 306
- 15a Johnston, W. & A. K., Edinburgh, Scotland.—Maps; illustrations of human anatomy, astronomy, botany, and mechanical powers. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 97-98.

- 16 Palmer, Samuel, London.—Index to the "Times" newspaper, a quarterly publication. 306
- 16a Warner, Robert, London.—Works on "Select Orchidaceous Plants." 306
- 17 Loth, John Thomas, Edinburgh.—Educational books and illustrations of the thirty-three degrees of the ancient and accepted Scottish rite. 306
- 17a Audsley & Bowes, Liverpool.—Works on "Ceramic Art in Japan." 306
- 18 Lockwood, Crosby, & Co., London.—Books, rudimentary, scientific, educational, and classical series. 306
- 19 Cassell, Pether, & Galpin, London.—Illustrated books, publications, serials; educational books and appliances; electrotypes of engravings on wood. 306
- 20 Smith, David, Halifax, Yorkshire.—The "Dyer's Instructor." 306
- 21 Dowson, Sutherland, & Co. (limited), London.—Complete file of "Iron," a weekly newspaper. 306
- 21a Price & Co., London.—Fac-similes from ancient manuscripts and printed books. 306
- 22 Potts, Roberts, M.A., Trinity College, Cambridge.—Educational books. 306
- 23 Murray, Andrew, London.—Illustrations and specimens of galls produced by mites, aphides, flies (cecidomyia), sandflies, cymipidæ. 306
- 23a Bradbury, Agnew, & Co., London.—Books and engravings. 306
- 24 Proprietors of the "Illustrated London News," London.—Specimens illustrating the art department of the "Illustrated London News." 306
- 25 Rola, Vincent, Bayswater.—Method for the piano, with diagrams and specimens of music. 306
- 26 Proprietors of the "Graphic," London.—Process of producing an illustrated newspaper, from the receipt of sketches to the final issue of printed sheets to the public. 306
- 27 Holdsworth, Edmund William Hunt, London.—Work on deep sea fishing and fishing boats. 306
- 28 Johnson, J. M., & Sons (limited), London.—Printing in color, show tablets. 306

Maps, Statistics, Scientific and Musical Instruments.

30 Rundell, Joseph Benjamin, South Kensington Museum, London.—Short-hand alphabet; maps, plans, etc., for educational atlases and other purposes; lithographic printing as applied to maps. 306

31 Paul, William, Waltham Cross, Herts.—Works on horticulture. 306

Institutions and Organisations.

31a South Kensington Museum.—Objects exhibited by order of the Lords of the Committee of Council on Education. 310

31b Ordnance Survey of the United Kingdom of Great Britain and Ireland.—Ordnance maps. 311

31c Geological Survey of the United Kingdom of Great Britain and Ireland.—Maps. 311

31d Johnson, Edmund, London.—Catalogues and other works having reference to international exhibitions. 312

Scientific and Philosophical Instruments and Methods.

31e Hicks, James Joseph, London.—Meteorological and scientific instruments. 320

32 Siemens, Charles William, London.—Pyrometers. (*In Machinery Hall.*) 320

32a Clay, Randolph, London.
a Instrument for tracing ellipses and other curves. 320
b Model of a deck seat with life-raft and of a boat distinguishing hook. 594

32b Negretti & Zambra, London.—Meteorological and scientific instruments. 302

33 Lyon, Washington, London.—Calculating table for rapidly multiplying numbers above 12. 321

33a Zimdars, C. E., London.—Pneumatic signal and communication apparatus; pneumatic railway signals, indicating and registering apparatus. 321

34 Wier, M. A., & Co., London.—Hydro-gyrometer or revolution indicator. 321

35 Morton, George, London.—Chronometer and watch balance springs, wire, and gauge. 323

35a Gibson, William, Belfast.—Watches. 323

36 Smith, Northwick, London.—Watches and chronometers, cases, dials, and movements. 323

36a Goggin, Jeremiah, Dublin.—Time-pieces. 323

36b Neal, John, London.—Gold and silver watches, chronometers, and time-pieces. 323

37 Sewill, J., Liverpool.—Marine chronometers and watches. 323

38 Mercer, Thomas, London.—Marine chronometers. 323

39 Kullberg, Victor, London.—Marine chronometers, watches, chronographs, repeaters, etc. 323

40 Dent, M. F., London.—Marine chronometers, watches, chronometer clocks, etc. 323

41 Whittaker, Richard, London.—Keyless watches. 323

42 Poole, James, & Co., London.—Marine chronometers and watches. 323

43 Nicole, Nielson, & Co., London.—Watches, chronometers, complicated watches, and chronographs. 323

44 Claxton, Robert, London.—Chronometer jewelings in all stages. 323

45 Frodsham, Charles, & Co., London.—Watches, clocks, and chronometers for astronomical purposes; pocket and marine chronometers. 323

46 Swift, James, London.—Microscopes and apparatus. 324

47 Middleton, Thomas John, London.—Magic lanterns, dissolving view apparatus, dissolving top for the oxyhydrogen lime light, lantern slides, etc. 324

48 Beck, R. & J., London.—Microscopes, telescopes, race glasses, surveying and meteorological instruments and tools. 324

49 Wheeler, Edmund, London.—Specimens for the microscope. 324

50 Dallmeyer, John Henry, London.—Astronomical and terrestrial telescopes, microscopes, photographic lenses, cameras, and apparatus. 324

51 Ross & Co., London.—Microscopes, monocular and binocular apparatus, object glasses, telescopes, and photographic lenses. 324

52 Crouch, Henry, London.—Microscopes, binocular, and with complete accessories for every class of scientific investigation; cabinets, lamps. 324

52a Rein, Frederick Charles, & Son, London.

a Magneto-electric machines. 325

b Acoustic instruments, speaking tubes and trumpets; acoustical contrivances for churches, public buildings, etc.; anti-acoustic protector. 327

53 India-Rubber, Gutta-Percha, and Telegraph Works Co. (limited), Silver-town, Essex.—Telegraph cables, insulated telegraph wires. 325

53a Mayer & Meltzer, London.—Galvanic batteries. 325

54 Siemens Bros., London.—Cable samples, and gutta-percha as applied to the manufacture of cables. 325

54a Lacey, Richard George, Coast Guard Station, Leigh, Essex.

a Alarm signal box for ships. 326

b Fisherman's block. 647

54b Kimpton, Thomas, London.—Pneumatic sound communicator. 326

54c Telegraph Construction & Maintenance Co. (limited), London.—Submarine telegraph cables. 326

55 Heaps, John Knowles, Holbeck, Leeds.—Violin and violoncello. 327

56 Smith, George, South Hackney.—Portable finger organ. 327

57 Boosey & Co., London.—Musical wind instruments, percussion instruments for bands. 327

58 Brinsmead, John, & Sons, London.—Grand, semi-grand, upright, and studio pianos; check repeater action for upright and grand pianos. 327

59 Collmann, Leonard W., London.—Cottage piano. 327

60 Beason, F., & Co., London.—Brass musical instruments. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Musical Instruments, Sports, Construction of Buildings.

61 Browne, H. Justin, London.—Up-
right cottage piano fortes. 327

Physical, Social, and Moral Condition
of Man.

62 Nicholson, Hamlet, Rochdale.—
Cricket and playing balls. 340

62a Lewis, J., Edinburgh.—Curling
stone. 340

63 Cochrane, Robert C. E., Athlone,
Ireland.—Drawings illustrating the ap-
plication of concrete to the erection of an im-
proved construction of dwellings. 342

63a Greenway, Henry, Plymouth.—
Drawings of hospital construction. 346

(N.B.—Certain exhibits in this department
from Great Britain are installed in Agricul-
tural Hall, and catalogued in Part IV.)

NEW SOUTH WALES.

(North of Nave, Columns 10 to 17.)

Educational Publications, Statistics, Maps, Photographs, etc.

Educational Systems, Methods, and
Libraries.

1 Mechanics' School of Arts, Sydney.
—Wax seal impression of corporate
seal. 302

2 Government Printing Office, Syd-
ney, New South Wales.
a Meteorological results, and report on edu-
cation. 305

b Government gazettes, statutes, statute
index, specifications of patents, parliament-
ary hand book, blue book and statistical
register, census reports on railways,
Rae's poems, newspapers, Australian lan-
guages. 306

Institutions and Organizations.

3 New South Wales Commissioners,
Sydney.—Birds of Australia, prepared by
Thorpe. 312

4 Trustees of the Australian Museum,
Sydney.—Specimens of natural history of
Australia. 312

Scientific and Philosophical Instru-
ments and Methods.

5 Parrot, T. S., Sydney.—Semaphore,
an instrument designed for army signaling
purposes. 326

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Engineering, Architecture, Maps, etc.

6 New South Wales Commissioners,
Sydney.—Topographical and geological
maps and sections of New South
Wales. 335

Physical, Social, and Moral Condition
of Man.

7 Government Printing Office, Syd-
ney.—Industrial Progress of New South
Wales; Transactions of Royal Society. 347

Photography.

1 The Commission.—Photographic
views of public buildings, scenery, etc.,
in and around Sydney, N. S. W. 430

2 Richards, T., Sydney.—Photographic
views of buildings, etc., in and around
Sydney; photographic views of Blue
Mountains and valley of the Grose;
photographic views of entomological col-
lection of New South Wales. 430

3 Degotardi, John, Sydney.—Photo-
mechanical printing. 431

4 Richards, T., Sydney.—Photo-litho-
graphs. 432

Hydraulic and Pneumatic Apparatus.

1 Postle, Sydney.—Ice machine. 568

VICTORIA.

(North of Nave, Columns 10 to 17.)

Publications, Statistics, etc.

Educational Systems, Methods, and Libraries.

- 1 Educational Department of Victoria, Melbourne.—Photographic views of state schools in Victoria. 300
- 2 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Portfolios of music by W. H. Glen. 302
- 3 Victorian Asylum & School for the Blind, Melbourne.—Baskets, perambulators, portmanteaus, trunks, mats, fancy wool-work, etc., made by the pupils. 303
- 3a Victorian Asylum for Deaf & Dumb.—Photographs. 303
- 4 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Official records, catalogues, lectures, reports, medical works, school books, sermons, and general literature. 304
- 5 Ferres, John, Government Printer, Melbourne.—Reports and statistics from the principal government institutions of Melbourne; Victorian newspapers. 305
- 6 Warrnambool, Borough Council for.—Statistics of the borough. 305

Scientific and Philosophical Instruments and Methods.

- 7 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Bell and stand. 327
- 8 Kilner, Joseph, Richmond.—Piano fortes. 327

Engineering, Architecture, Maps, etc.

- 9 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Miscellaneous maps, etc. 330
- 10 Surveyor-General of Victoria, Melbourne.—Maps and plans of the colony of Victoria. 330

Physical, Social, and Moral Condition of Man.

- 11 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
 - a Patent ceiling ventilator; model of Victorian bush residence, with huts and various kinds of fencing. 342
 - b Sovereigns and half-sovereigns from Royal Victorian mint, Melbourne. 344
 - c Baskets, mats, etc., made at Coranderk aboriginal mission station; vocabulary of Victorian aboriginal dialects, bluestone tomahawk, photographs of Victorian aborigines. 348
- 12 Bank of Victoria, Melbourne.—Bank notes and statistics of the bank. 344
- 13 Commercial Bank of Australia, Melbourne.—Bank notes, photographs, and statistics of the bank. 344
- 14 National Bank of Australasia, Melbourne.—Bank notes and statistics of the bank. 344
- 15 Penal Department, Inspector-General of Melbourne.—Warder's uniform, prisoners' clothing, hats, boots, shoes, mats, etc. 345

CANADA.

(North of Nave, Columns 16 to 23.)

Educational Collections.

Educational Systems, Methods, and Libraries.

- 1 Merritt, J. P., St. Catherine's, Ont.—Metric and chronological tables, chronotable of Canada. 300
- 2 Tennant & McLachlan, Hamilton, Ont.—Penmanship. 300
- 3 Pearse, James, Chatham, Ont.—Penmanship. 300
- 4 Browne, James, Toronto, Ont.—Chart stand and illustrator. 300

- 5 Educational Department, Toronto, Ont.—This is a department of State of the Province of Ontario, constituted by a committee of the Executive Councils, and is presided over by a member thereof, who is directly responsible to the Legislature. Minister of Education, Hon. Adam Crook, LL.D.; Deputy Minister of Education, John George Hodgins, LL.D.; Secretary, Abraham Marling, LL.D. 300

- 6 Beatty, L. J., Belleville, Ont.—Penmanship. 300

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Educational Appliances, Scientific and Musical Instruments, etc.

- 7 Hector, Thos., Ottawa, Ont.—Rotary polar map of the world. 300
- 8 Genest, P. M. A., Quebec, Q.—Map of "La Nouvelle France." 300
- 9 Tackabury, J. N., Montreal, Q.—Dominion atlas, maps of Ontario and Quebec. 300
- 10 May, John P., Canada School Apparatus Co., Toronto, Ont.—Chemical laboratories, anatomical models, object-lesson cabinets, etc. 300
- 12 English, Ch., St. John, N. B.—Composition blackboard. 300
- 13 Hill, C. P., Halifax, N. S.—Photograph Halifax Industrial School. 300
- 15 McGill University, Montreal, Q.—Calendars, medals, photographs of universities. 301
- 16 Université Laval, Quebec, Q. 303
- 17 College Nicolet, Nicolet, Q. 303
- 18 Maitriac St. Pierre, Montreal, Q. 303
- 19 Ecole du Plateau, Montreal, Q. 303
- 20 College Ste. Hyacinthe, Ste. Hyacinthe, Q. 303
- 21 Séminaire Ste. Thérèse, Ste. Thérèse, Q. 303
- 22 Collège Joliette, Joliette, Q. 303
- 29 Providence, Montreal, Q. 303
- 30 Bon Pasteur, Montreal, Q. 303
- 33 Hopital Général, Quebec, Q. 303
- 34 Hopital Général, Montreal, Q. 303
- 35 Frères de la Charité, Montreal, Q. 303
- 36 Hopital du Sacré-Cœur, Montreal, Q. 303
- 39 Convent de Sillery, Quebec, Q. 303
- 40 Campbell, James, Toronto, Ont.—Books. 306
- 41 Weld, W., London, Ont.—Farmer's Advocate. 306
- 42 Lovell Printing & Publishing Co., Montreal, Q.—School and other books. 306
- 43 Webster, Geo., Hamilton, Ont.—Bible, printed. 306
- 44 Sheppard, W., Quebec, Q.—Bible (1555). 306
- 45 MacKinlay, A. & W., & Co., Halifax, N. S.—Map of the United States; series of school books. 306

Institutions and Organizations.

- 46 Bell, Robert, Montreal, Q.—Indian curiosities and manufactures. 312
- 47 St. Amand, A., Loretto, Q.—Indian curiosities. 312
- 48 Advisory Board, Victoria, Br. Col.—Indian goods and manufactures. 312

Scientific and Philosophical Instruments and Methods.

- 49 Cornell, S., Widden Stantio, Ont.—Marine compass. 320
- 50 Meyer, Aleert, F. W., Montreal, Q.—Apparatus for determining inaccurate points. 320

- 51 Hearne & Harrison, Montreal, Q.—Surveying and other instruments. 320
- 52 Ross, Alex., Montreal, Q.
a Odonometer. 320
b Indicating and registering apparatus. 321
- 53 Landham, F., Ottawa, Ont.—Lumbermen's measuring rule. 322
- 54 Sabie, B., Point Lévis, Q.—Sliding foot rule. 322
- 56 Morris, J. W., Hamilton, Ont.—Universal clock. 323
- 57 Duquet, C., Quebec, Q.—Watchman detector. 323
- 58 Lefort & Chapleau, Montreal, Q.—Watchman detector. 323
- 62 Marrin Bros., Parkhill, Ont.—Parlor organ. 327
- 63 Bell, W., & Co., Guelph, Ont.—Cabinet organs. 327
- 65 Delamere, J. H., Toronto, Ont.—Organs. 327
- 66 Mee, C., & Co., Kingston, Ont.—Melodeon, parlor organ, and organ keys. 327
- 68 Dominion Organ Co., Bowmanville, Ont.—Organs. 327
- 70 Knott, John, & Son, Hamilton, Ont.—Upright piano. 327
- 71 Heintzman & Co., Toronto, Ont.—Square piano. 327
- 72 Kater, Th., Hamilton, Ont.—Pianos, parts of pianos, etc. 327
- 73 Weber & Co., Kingston, Ont.—Pianos. 327
- 74 Rainer & Son, Guelph, Ont.—Piano. 327
- 75 Draper, E., London, Ont.—Harmonic instructor and musical game. 327
- 77 Lyonnais, T., Quebec, Q.—Violin. 327
- 79 Sheppard, W. G., Quebec, Q.—Violoncello, 1772. 327
- 80 New Dominion Organ Co., St. John, N. B.—Cabinet organs. 327
- 81 Gates, E. E., Halifax, N. S.—Cabinet organs. 327
- 82 Brockley & Co., Halifax, N. S.—Upright piano and stool. 327

Engineering, Architecture, Maps, etc.

- 83 Gray, F. Wood, Quebec, Q.—Engineering drawings. 330
- 84 Cousin, Paul, Quebec, Q.—Map of city of Quebec, etc. 330
- 86 Trout, W. H., Peterborough, Ont.—Mechanical drawings. 330
- 87 Johnstone, J., Ottawa, Ont.—Geographical drawing. 335
- 88 Burpee, M., Upper Sheffield, N. B.—Mechanical drawing. 335
- 89 Honeyman, Dr., Halifax, N. S.—Geological map of Nova Scotia. 335
- 90 Anderson, A. T., Br. Col.—Physical map of British Columbia. 335

Physical, Social, and Moral Condition of Man.

- 92 The Corporation of Toronto, Toronto, Ont.—Photographic views of buildings in Toronto. 345

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

FRANCE.

(South of Nave, Columns 39 to 53.)

Educational Publications, School Apparatus.

Educational Systems, Methods, and Libraries.

- 1 Godchaux, Aug., & Co., Paris.—Copy books for schools. 300
- 2 Rives, Paris.
a School furniture. 300
b School materials. 301
- 3 Bapterosses, F., Paris.—School materials. 300
- 4 Desbarolles, Paris.—Works on penmanship. 300
- 5 Delalain, J., & Son, Paris.—School books in different languages. 300
- 7 Le Brun, Paris.—Elementary dictionaries. 300
- 8 Lagout, Nogent-sur Seine (Aube).—School materials. 300
- 9 Leroy, P., Brides-les-Bains, near Moutiers (Savoy).—Educational system. 300
- 10 Maitrepierre, Paris.—Copy books. 300
- 11 Raybaud, Draguignan (Var).—Reading method. 300
- 12 Touron, Emile, Bois de Colombes (Seine).—Geometrical problems. 300
- 13 Taulard, Principal of Menclou-Salon School, Menclou-Salon (Cher).—Pupils' work. 300
- 15 Mouret, Paris.—Globe. 301
- 16 Levesque, Villeneuve St. Denis (Seine and Marne).—Metrical system. 301
- 17 Eloffe & Co., Paris.—Works on natural history; terrestrial globes. 301
- 18 Level, Paris.—Medical and graphic systems. 301
- 19 La Cointe, Evreux (Eure).—Arithmetical problems. 302
- 20 National School of Engineering, Paris.—Documents and reports of the school. 302
- 21 National School of Mines, Paris.—Documents and reports of the school. 302
- 22 Méillot, A., Paris.—Music method. 302
- 23 Dauphin, Lunéville (Meurthe and Moselle).—Printing in relief for the blind. 303
- 24 Dupont, Paul, Paris.—Works on government and education. 306
- 25 Duployé Bros., Paris.—System of stenography. 306
- 26 Dunod, Paris.—Scientific and mechanical works. 306
- 27 Dumaine, J., Paris.—Military books. 306
- 28 Ducrocq, P., Paris.—Children's books. 306
- 29 Deucher & Co., Paris.—Works on art and architecture; chromo-lithographs, engravings and photographs. 306
- 30 Didier & Co., Paris.—Academical books. 206
- 31 "Gazette des Beaux Arts," Paris.—Specimens of the paper and its engravings. 306
- 32 Gauthier-Villars, Paris.—Scientific books. 306
- 33 Furne, Jouvett, & Co., Paris.—General literature. 306
- 34 Firmin Didot & Co., Paris.—Illustrated literary works. 306
- 35 Laboulaye, Ch., Paris.—Dictionary of arts and manufactures, and works concerning industrial art. 306
- 36 Jouaust, D., Paris.—Literary works. 306
- 37 Jacquemin, Paris.—Historical costumes. 306
- 38 Hetzel, J., & Co., Paris.—Books. 306
- 39 Hennuyer, Paris.—Books. 306
- 40 Hachette & Co., Paris.—Educational, literary, and illustrated works. 306
- 41 Guillaumin & Co., Paris.—Works on political economy and finance: "Journal des Economistes." 306
- 42 Guérin, L., & Co., Paris.—Works on science and art. 306
- 43 Lemerre, Alphonse, Paris.—Classical work. 306
- 44 Desteract, A., Paris.—Account books. 306
- 45 Leroy, André, Angers (Maine and Loire).—Pomological dictionary. 306
- 46 Leroy, P. N., Paris.—Illustrated historical works. 306
- 47 Maisonneuve & Co., Paris.—Books. 306
- 48 Loones, Paris.—History of painters. 306
- 49 Maison Rustique, Agricultural Library, Paris.—Works on agriculture and horticulture. 306
- 50 Mariel, H. de, New York.—Work on the commerce and industry of the United States. 306
- 51 Mame, A., & Son, Tours.—Classical works. 306
- 52 Masson, G., Paris.—Works on medicine, natural history, etc. 306
- 53 Morel, Mrs. A., & Co., Paris.—Works on architecture. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-43.

Educational Publications, Statistics, Scientific Instruments.

- 54 Plon & Co., Paris.—Illustrated works on history, jurisprudence, etc. 306
- 55 Delahaye, V. A., & Co., Paris.—Works of the Biological Society and the Anatomical Society of Paris. 306
- 56 Delagrave, Ch., Paris.—Geographical and classical books. 306
- 57 Ballue, A., Paris.—Illustrated publications. 306
- 58 Balny, A., Espaubourg (Oise).—Work on agriculture. 306
- 59 Baudry, T., Paris.—Works on engineering, mechanics, mining, metallurgy, and railroads. 306
- 60 Beckensteimer, Lyons.—Works on electricity. 306
- 61 Belin, Mrs., Paris.—Classical books; maps in relief. 306
- 62 Belleville, Col., Toulouse.—Report on hydrophobia; physiological reports. 306
- 63 Boulanger, Mrs., Paris.—Books. 306
- 64 Calman, Lévy, Paris.—Literature, history, and modern drama. 306
- 65 Charpentier & Co., Paris.—Various publications. 306
- 66 Colin & Co., Paris.—Classical books. 306
- 67 Reinwald, E., & Co., Paris.—Books. 306
- 68 Rothschild, J., Paris.—Books. 306
- 69 Rudy, Charles, Paris.—The Chinese mandarin language. 306
- 70 Staaff, Paris.—Work on military tactics. 306
- 71 Tanera, Paris.—Topographical maps and plans of battles; military books. 306
- 72 Thirion, Ch., Paris.—Inventors' and patentees' tablets. 306
- 73 Central Union of Fine Arts, Paris.—Albums and publications. 306
- 74 Chervin, Paris.—Method of curing stammering. 306
- 75 Dron, Paris.—Commercial books. 306
- 76 City of Paris.—Statistics, regulations, models, programmes, reports, books, and scholars' work of the schools of Paris; report on primary instruction by Mr. Gréard. 306

Institutions and Organizations.

- 77 Department of Public Education, Paris.—Regulations of the French Institute, the College of France, and the National Library; books and catalogues; report on primary education at the Vienna Exposition. 310
- 78 Chaix, A., & Co., Paris.—Scientific books. 311
- 79 Industrial School, St. Quentin and Aisne.—Albums, cartoons, etc. 311
- 80 Elementary Education Society, Paris.—Pupils' works and report. 312
- 81 Publishers', Printers', and Stationers' Club, Paris.—Publishing, printing, and stationery. 311
- 82 City of Paris.—Catalogue of the French section of the London Exhibition. 312

- 83 Bouvier, A., Paris.—Skeletons of gorillas; catalogue of the birds of Central Africa; map. 312
- 84 Department of Agriculture & Commerce, Paris.—Prizes awarded to agriculturists by various fairs. 312

Scientific and Philosophical Instruments and Methods.

- 85 Alvergnyat Bros., Paris.—Scientific instruments. 320
- 86 Grivolat L., Paris.—Solar clock. 320
- 87 Lion & Guichard, Paris.—Barometers, thermometers, and pyrometers. 320
- 88 Louvet, A., Pont l'Évêque (Calvados).—Support for instruments. 320
- 89 Optical Society, Paris.
a Mathematical instruments. 320
b Optical instruments. 324
- 90 Malligand, Ed., jr., Paris.—Alcohol tester. 320
- 91 Naudet & Co., Paris.—Barometers. 320
- 92 Perreux, L. G., Paris.
a Instruments of precision. 320
b Indicating apparatus. 321
- 93 Colange, Leo de, Philadelphia.—Automatic indicator. 321
- 94 Haas, B., jr., & Co., Paris.
a Carriage controllers. 321
b Clocks, watches, musical boxes, and singing birds. 321
- 95 Nicolas & Chamon, Paris.—Water meters. 321
- 96 Rigoliot, Paris.—Water meter. 321
- 97 Rubolti, Cesar, Grenoble.—Spigot meter. 321
- 98 Deschiens, Paris.—Calculating machines. 321
- 99 Fialont, Mrs., Paris.—Measuring tapes. 322
- 100 Chameroy & Co., Paris.—Scales. 322
- 101 Deleuil, Paris.—Photometer, scales, and pneumatic machines. 322
- 102 Panier, Ernest, Paris.—Mathematical instruments. 322
- 103 Paupier, Leonard, Paris.—Scales for railroads. 322
- 104 Trayvou, B., Paris.—Scales. 322
- 105 Savary & Rondeleux, Paris.—Gold and silver watches. 323
- 106 Boucher-Gravet, Paris.—Clocks. 323
- 107 Cressier, E., Besançon.—Watches and clocks. 323
- 108 Bréguet & Co., Paris.—Chronometers. 323
- 108a Hangard, Paris.—Springs for watches. 323
- 109 Farcot, Eugène, Paris.—Clocks. 323
- 110 Gony, J. B., & Co., Pontarlier (Doubs).—Watches. 323
- 111 Malfait, F., & Co., Paris.—Clocks. 323
- 111a Moat, Eugène, Paris.—Springs for watches. 323
- 112 Marrel, J. E., Paris.—Clocks. 323
- 113 Mayet-Tissot, Moréz (Jura).—Regulators. 323

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific and Musical Instruments, Engineering Designs.

- 114 Rodanet, A. H., Paris.—Marine and pocket chronometers, watches, and chains; clocks, registers. 323
- 115 Süsfeld, Lorsch, & Co., Paris.—Marble clocks. 323
- 116 Vignon, A., Paris.—Clocks. 323
- 117 Lachenal, Favre, & Co., Paris.—Stereoscopes with views on glass. 324
- 118 Bardou & Sons, Paris.—Optical instruments. 324
- 119 Darlot, Paris.—Photographic apparatus and photographs. 324
- 120 Derogy, Paris.—Optical instruments. 324
- 121 Duboscq, J., Paris.—Optical instruments. 324
- 122 Feil, Charles, Paris.—Optical goods. 324
- 123 Henry-Lepaute, Paris.—Lenses for lighthouses. 324
- 124 Hoel, J., Paris.—Spectacles and eyeglasses. 324
- 125 Lacombe, Paris.—Opera glasses. 324
- 126 Nachet, A., Paris.—Microscopes. 324
- 127 Secrétan, Paris.—Astronomical and scientific instruments. 324
- 128 Radiguet, Paris.—Mirrors. 324
- 128a Lemaire, Paris.—Eyeglasses, opera glasses, etc. 324
- 129 Loiseau, A., Son, Paris.—Electrical apparatus. 325
- 130 Bréguet, Paris.—Models of magneto-electric machines for laboratories. 325
- 131 Carré, E., Paris.—Pneumatic pumps, electrical machines, and light regulators. 325
- 132 Janin, Paris.—Magnets. 325
- 133 Gramme's Magneto-Electric Machine Co., Paris.—Galvano-plastic machine, etc. 325
- 134 Walcker, A. G., Paris.—Pneumatic and telegraph bells applied to the navy and railways. 326
- 135 Alexandre & Son, Paris.—Church and parlor organs. 327
- 136 Angot & Dubreuil, Ivry-la-Bataille (Eure).—Wooden musical instruments. 327
- 137 Beunon, Paris.—Upright piano. 327
- 138 Baudet, Paris.—Pianos. 327
- 139 Bontems, B.—Singing and moving birds. 327
- 140 Brunning, Otto, Paris.—Upright pianos. 327
- 141 Debain & Co., Paris.—Mechanical piano. 327
- 142 Focké & Son, Paris.—Pianos. 327
- 143 Fortin Bros., Paris.—Felts for pianos. 327
- 144 Gavioli, C., jr., Paris.—Pianos and organs; automatic musical instruments. 327
- 145 Gavioli & Co., Paris.—Organs, pianos, flutes, and band instruments. 327
- 146 Gehrling, Ch., jr., Paris.—Piano movements. 327
- 147 Goumas, P., & Co.,—Wind musical instruments and saxophone. 327
- 148 Koenig, Rudolph, Paris.—Acoustic apparatus. 327
- 149 Krieglsteinn & Co., Paris.—Pianos. 327
- 150 Lecomte, A., & Co., Paris.—Musical instruments. 327
- 152 Mennesson, Emil, Reims.—Violins, altos, bass, and double bass. 327
- 153 Morand & Tourneur, Paris.—Mechanical harmoniums. 327
- 154 Thibouville, Lamy, Paris.—Musical instruments. 327
- 155 Zimmermann, Henry, Paris.—Organ pipes. 327
- Engineering, Architecture, Maps, etc.**
- 156 Suez Canal Co., Paris.—Maps and plans of the Suez Canal. 330
- 157 Caligny, A. de, Versailles.—Report on hydraulics. 330
- 158 Blanchet, A. P., Henrichemont (Cher).—Projected channel through Nicaragua. 330
- 159 Chanudet, L., Neuilly-sur-Seine.—Model of wooden pavement. 330
- 160 Le Moulmier, Paris.—Sample of pavement. 330
- 161 Department of Public Works, Paris.
- a Roads, bridges, viaducts, dams, hydraulic press, docks, embankments, aqueducts, and reservoirs. 330
- b Railroads; steel rails, depots, rolling stock, etc. 332
- c Navigation; lighthouses, buoys, and beacons, with apparatus for lighting; life-saving apparatus from the Life-Saving Society. 334
- d Geological and agricultural maps, etc., of France; reports and documents from the National School of Mines. 335
- 162 Montell & Cassaynes, Paris.—Technical report upon the Suez Canal. 330
- 163 City of Paris.—Reports of the various departments of the city of Paris, maps, plans, etc.; projected and completed bridges by Mr. Legrand; promenades by Mr. Alphand; architectural reports of public buildings by Messrs. Ballu, Baltard, Duc, Davioud, Magne, and Fernique; portfolio of engravings of monuments; historical works; plan of Paris by Quesnal; archaeological reports by Vacquer; photographs; reports and plans of the sewers of Paris. 330
- 164 Edoux, Leon, Paris.—Special system for mountain railroads. 332
- 165 Transatlantic Steamship Co., Paris.—Model of the steamship "Pereire." 334
- 166 Beaumarchey, Louis, Aix (Provence).—Astronomical maps and pictures, astronomical indicator, cosmographic apparatus. 335
- 167 Fay, de, War Department, Paris.—Relief plans. 335
- 168 Erhard, Paris.—Geographical maps. 335
- 169 Furne, Jouvett, & Co., Paris.—Geographical military atlas adopted by the military school of St. Cyr. 337

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Engineering Designs, Physical Apparatus, Benevolence.

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| <p>170 D'Italo, Enrico F., Paris.—Geographical works, atlas, and maps. 335</p> <p>171 Thomas, Paris.—Chronometric and cosmographic instruments. 335</p> <p>172 Wührer, L., Paris.—Geographical maps. 335</p> <p>173 Lienard, F.—Plans in relief, of Paris and Jerusalem. (<i>In Park.</i>) 335</p> <p>Physical, Social, and Moral Condition of Man.</p> <p>174 Brière, Jules, Alençon (Orne).—Nursing-nipples. 340</p> <p>175 Carue, Paris.—Gymnaastic apparatus. 340</p> | <p>176 Pas, E., Paris.—Gymnaastic apparatus. 340</p> <p>177 Regnier, Paris.—Economical wooden roofing. 342</p> <p>178 Thirion, Ch., Paris.—Writing tablets. 343</p> <p>178a Society of Comparative Legislation, Paris.—Legislative works. 345</p> <p>179 Marbeau, Paris.—Plans, documents, etc., of a foundling hospital. 346</p> <p>180 City of Paris.</p> <p style="padding-left: 20px;">a Reports of the municipal authorities. 345</p> <p style="padding-left: 20px;">b Reports of the municipal lying-in asylum, by Dr. Tarnier. 346</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Books, Maps, Engravings, Type.

Educational Systems, Methods, and Libraries.

COLLECTIVE EXHIBIT OF THE BOOK TRADE AND PRINTING INDUSTRIES OF GERMANY.—BOOKS, LITHOGRAPHIC PRINTS, COPPER-PLATE AND XYLOGRAPHIC WORK, MAPS, PHOTOGRAPHS, GRAPHIC, AND OTHER METHODS OF INSTRUCTION, TYPE FOUNDERS' WORK. 300-306

- 1 Ackermann, Theodore, Munich.—Books with engravings.
- 2 Amelang, C. F., Leipsic.—Books.
- 3 André, Joh., Offenbach-on-Main.—Musical publications.
- 4 Anton, Ed., Halle-on-Saale.—Books.
- 5 Bach, I. G., Leipsic.—Lithographs.
- 6 Baedeker, G. D., Essen.—Books.
- 6a Baedeker, J., Iserlohn.—Illustrated books.
- 7 Baedeker, Carl, Leipsic.—Books.
- 8 Bauer's Type Foundry, Frankfort-on-Main.—Type, etc.
- 8a Basar Publishing Co., Leipsic.—Books.
- 9 Beck, C. H., Nördlingen.—Books, plates, and designs.
- 10 Bomsdorf, Oscar von, Leipsic.—Maps.
- 10a Brend'amour & Co., Dusseldorf.—Albums.
- 11 Brandstetter, Friedrich, Leipsic.—Illustrated and other books.
- 12 Breidenbach & Baumann, Dusseldorf.—Art publications.
- 13 Breitkopf & Härtel, Leipsic.—Musical classics, catalogue, etc.
- 14 Brockhaus, F. A., Leipsic.—Books and maps.
- 15 Back, Leipsic.—Publications.
- 16 Publishing & Printing House of the Orphan Asylum, Halle-on-Saale.—Books and Bibles.
- 17 Cohen & Risch, Hanover.—Books on gardening, etc.
- 18 Costenoble, Hermann, Jena.—Books and maps.
- 19 Cotta, I. G., Stuttgart.—German classics.
- 19a Official Gazette of the German & Prussian Governments, Berlin.—Volume for 1875.
- 20 Drugulin, W., Leipsic.—Type and printing.
- 21 Duncker & Humblot, Leipsic.—Books.
- 22 Dürr, Alphonse, Leipsic.—Illustrated books.
- 23 Engelhorn, I., Stuttgart.—Illustrated work on Italy, etc.
- 24 Engelmann, Wilh., Leipsic.—Books.
- 25 Ernst & Korn, Berlin.—Plates from architectural works.
- 26 Eschebach & Schaefer, Leipsic.—Lithographs.
- 27 Fritzsche & Zschiesche, Leipsic.—Illustrated postage-stamp albums.
- 28 Hennes, A., Berlin.—Piano forte method.
- 31 Fischer, Theodore, Cassel.—Publications, plates, and maps.
- 32 Fleischer, Ernst, Leipsic.—Scientific and school books.
- 33 Flemming, Carl, Glogau.—Maps, atlases, books, etc.
- 34 Flinsch Type Foundry, Frankfort-on-Main.—Specimens of printing.
- 35 Friderichs, R. L., Eiberfeld.—Publications.
- 36 Fries, Hermann, Leipsic.—Books.
- 37 Fritzsche, Gustav, Leipsic.—Books.
- 38 Furstenau, Oscar, Leipsic.—Lithographs.
- 39 Gebhardt, I. M., Leipsic.—Manuals of arts and sciences, etc.
- 40 Hauboldt, Otto, Leipsic.—Publications.
- 41 Photographic Association, Berlin.—Picture books.
- 42 Grunow, F. W., Leipsic.—Publications.
- 43 Habel, Carl, Berlin.—Publications.
- 44 Glaser, Louis, Leipsic.—Lithographs in imitation of photography.
- 45 Grote, G., Berlin.—Illustrated classics and photographs.
- 46 Grumbach, C., Leipsic.—Illustrated books, pictures, and engravings.
- 47 Hans, L., Berlin.—Prints and plates.
- 48 Hartknoch, Joh. Fr., Leipsic.—Books.
- 49 Harßing, H., & Son, Leipsic.—Books.
- 50 Haessel, H., Leipsic.—Dictionaries.
- 52 Hermann, Bernhard, Leipsic.—Lexicon of dates.
- 53 Heymann, Carl, Berlin.—Books.
- 54 Hinrichs, I. C., Leipsic.—Publications.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Books, Printing, Engravings, etc.

- 54a Hirschman, I. M., Offenbach-on-Main.—Labels and signs.
- 55 Hirt, Ferdinand, Breslau.—School books.
- 56 Hirt & Son, Leipsic.—Geographical publications.
- 57 Hirszel, Solomon, Leipsic.—Dictionary and books.
- 58 Hofmeister, Fr., Leipsic.—Musical publications.
- 58a Hoppe, E., & Co., Berlin.—Chromos.
- 59 Hunderstund & Pries, Leipsic.—Engravings and prints.
- 60 Bibliographic Institute, Leipsic.—Classics, books of travel, and maps.
- 61 Geographical Institute, Weimar.—Atlases, maps, and globes.
- 62 Photo-lithographic Institute, Weimar.—Maps.
- 63 Isasleib & Rietzschel, Gera.—Atlases, maps, and books.
- 65 Kaeseberg, Hugo, Leipsic.—Wood cuts.
- 66 Kafemann, A. W., Danzig.—Books, etc.
- 67 Kern, I. U., Breslau.—Books.
- 68 Kirmayer, Max, Munich.—Map.
- 69 Klingenberg Bros., Detmold.—Scientific publications.
- 71 Koehler, Carl, Darmstadt.—Chromolithographic views, etc.
- 72 Kortkamp, Fr., Berlin.—Legal and political books.
- 72a Kressner, L., Wurtzburg.—Surgico-pathological tables.
- 73 Kratzschmar, Fr., Leipsic.—Lithographs.
- 74 Langenscheid Publishing House, Berlin.—Dictionaries and school books.
- 74a Leipsic Gazette, Leipsic.—"Leipsic Gazette."
- 75 Lesimple, Adolf, Mayence.—Books.
- 76 Leukart, Breslau.—Medical works.
- 77 Lorck, Carl B., Leipsic.—Books.
- 78 Lüderitz, C. G., Berlin.—Books.
- 78a Mauke, W., Leipsic.—Housebook.
- 79 Mayer, Edward Heinrich, Cologne.—Books.
- 80 Meinhold, C. C., & Sons, Dresden.—Anatomical atlas.
- 81 Meissner, Otto, Hamburg.—Books.
- 82 Meissner & Buch, Leipsic.—Lithographs, etc.
- 82a Mentzel, A., Leipsic.—Books.
- 83 Mey & Widmayer, Munich.—Art publications.
- 84 Müller, C. Ed., Bremen.—Books.
- 85 Naumann, C. G., Leipsic.—Job printing.
- 86 Naumann, Justus, Leipsic.—Biblical pictures.
- 87 Nicolai's Publishing House, Berlin.—Books.
- 89 Nitzschke, Wilhelm, Stuttgart.—Atlases.
- 89a Oehmigke's Publishing House, Leipsic.—School books, etc.
- 90 Paetel Bros., Berlin.—Books.
- 91 Perthes, Justus, Gotha.—Atlases, etc.
- 92 Peters, C. F., Bureau de Musique, Leipsic.—Music.
- 92a Pola, E., Leipsic.—Leipsic "Tageblatt."
- 93 Reimer, Dietrich, Berlin.—Maps, etc.
- 94 Röder, C. G., Leipsic.—Prints, etc.
- 95 Rommel, Wilhelm, Frankfurt-on-Main.—Illustrated heraldic works.
- 96 Röttmiller & Jonas, Dresden.—Prints.
- 97 Schlegel, Ernst, Aschersleben.—Art plates.
- 98 Schmidt, H. W., Halle-on-Saale.—Books.
- 98a Schmidt, Heinr., & Günther, Carl, Leipsic.—Books.
- 99 Schönfeld, G., Dresden.—Books.
- 101 Schotte & Co., Ernst, Berlin.—Globes, maps, etc.
- 102 Schreiber, I. F., Esslingen.—Picture books.
- 103 Schubert & Co., Leipsic.—Music.
- 104 Seemann, E. A., Leipsic.—Books.
- 105 Schulz, O. A., Leipsic.—Directory of German book trade.
- 105a Schwann, L., Neuss.—Publications.
- 105b Schulze, Oldenburg.—Books.
- 106 Siegmund & Volkening, Leipsic.—Educational literature.
- 108 Soenneken, Fr., Remscheid.—Writing books.
- 109 Spamer, Otto, Leipsic.—Books.
- 110 Spemann, W., Stuttgart.—Art works.
- 110a Spiller, Ph., Berlin.—Books.
- 111 Springer, Julius, Berlin.—Books.
- 112 Steinhaus, J. F., Bremen.—Bibles.
- 113 Storch & Kramer, Berlin.—Chromos.
- 115 Strumper & Co., Hamburg.—Prints.
- 117 Tauchnitz, Bernhard, Leipsic.—Publications.
- 118 Tegetmeyer, Ferd., Leipsic.—Wood engravings.
- 119 Trewendt, Eduard, Breslau.—Books and maps.
- 120 Velhagen & Clasing, Leipsic.—Illustrated journals, religious works, etc.
- 121 Veith, J., Karlsruhe.—Art publications.
- 122 Vogel, F. C. W., Leipsic.—Books.
- 123 Voss, Leopold, Leipsic.—Books.
- 123a Wachsmuth, F. E., Leipsic.—Animal pictures.
- 123b Waldow, A., Leipsic.—Books and periodicals.
- 124 Wagner, R., Berlin.—Plates.
- 125 Wagner, H., & Debes, C., Leipsic.—Plates and maps.
- 126 Weber, J. J., Leipsic.—Diaries, etc.
- 128 Weigel, T. O., Leipsic.—German and Latin works.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Educational Appliances, Scientific and Musical Instruments, Clocks.

- 129 Westermann, George, Brunswick.—School books.
- 130 Wiegandt, Hempel, & Parey, Berlin.—Books on agriculture, etc.
- 131 Wigand, George, Leipsic.—Religious books, atlas, etc.
- 132 Wigand, Otto, Leipsic.—Dictionaries, year books.
- 133 Winter, C. F., Leipsic.—Illustrated works.
- 134 Wolf, Adolph, Dresden.—Illustrated journals and chromos.
- 135 Zahn, R. von, Dresden.—Books.
- 136 Zernin, Eduard, Darmstadt.—Works on military science.
- 137 Hermes, Wilhelm, Berlin.—Drawing instructor and studies. 300
- 139 Grothe, Hermann, Berlin.—Apparatus for instruction in technical schools. 302
- 140 Loeff, Paul, Berlin.—Books on furnaces, ovens, kilns, etc. 302
- 141 Raumer, C. V., Warmbrunn, Silesia.—Instruction book for the manufacture of bricks. 302
- 142 Blankenhorn, A., Carlsruhe.
 a Instruction books for wine growing and agriculture. 302
 b Enological reviews. 306
- 143 Keller, Heinrich, Son, Darmstadt.—Herbarium of forest and field grasses. 302
- 144 Schröder, J., Polytechnic Industrial Institute, Darmstadt.—Models for teaching purposes, drawing appliances. 302
- 145 Lette Association, Commercial and Trades School, Berlin.—Placard relating to the labors of the Association. 302
- 146 Stenographibical Society of Stolze, Berlin.—Books, reports, etc. 306
- 147 Moesser, W., Berlin.—Sundry literary works. 306
- 148 Bavarian Museum of Arts, Nuremberg.—Publications, communications, etc. 306
- Scientific and Philosophical Instruments and Methods.**
- 151 Riefler, Clem., Maria-Rhein, near Kempten.—Mathematical instruments. 320
- COLLECTIVE EXHIBIT OF NUREMBERG MATHEMATICAL INSTRUMENT MANUFACTURERS.** 320
- 152 Schoenner, Georg, Nuremberg.
- 153 Bayer, Jean, Nuremberg.
- 154 Heisinger, Ludwig, Nuremberg.
- 155 Schultze, G. A., Berlin.—Philosophical apparatus. 321
- 155a Schöffner & Budenberg, Buckau.—Water gauges. 321
- 156 Sartorius, F., Göttingen.—Analytical scales. 322
- COLLECTIVE EXHIBIT OF THE BLACK FOREST CLOCK MANUFACTURERS.** 323
- 157 Lenzkirch Joint Stock Co., Lenzkirch.
- 158 Schwer, Benedict, jr., Triberg.
- 159 Haas, Ph., & Sons, St. Georgen.
- 160 Wehrle, Em., & Co., Furtwangen.
- 161 Kaltenbach, Leo, Furtwangen.
- 162 Ketterer, B., Sons, Furtwangen.
- 163 Bob, Lorenz, Furtwangen.
- 164 Beha, J. Bapt., & Sons, Eisenbach.
- 165 Weishaupt & Fleig, Villingen.
- 166 Feser, Paul, Villingen.
- 167 Maurer & Höfler, Eisenbach.
- 168 Zimmer, J., Furtwangen.
- 169 United Clockmakers of Glashütte, Saxony.—Clock parts. 323
- 170 Becker, Gustav, Freiburg, Silesia.—Regulators. 323
- 171 Felsing, Conrad, Berlin.
 a Regulators, etc. 323
 b Music boxes, melodeons. 327
- 172 Hadank & Son, Hoyerswerda, Upper Lausitz.—Steeple clock and bell. 323
- 173 Lange, A., & Sons, Glashütte, Saxony.—Watches and watch parts. 323
- 174 Voigtlaender & Son, Brunswick.—Photographic objectives, opera glasses, field glasses, and telescopes. 324
- 174a Hirschmann, W. A., Berlin.—Electrical apparatus for medical use. 325
- 175 Joint Stock Co. for Telegraph Supplies, Berlin.—Materials for insulators. 326
- COLLECTIVE EXHIBIT OF MUSICAL INSTRUMENTS AND STRINGS.** 327
- 176 Pfretzschauer, G. A., Markneukirchen, Saxony.
- 177 Bauer, Albin, jr., Markneukirchen, Saxony.
- 178 Paulus & Schuster, Markneukirchen, Saxony.
- 181 Glier, K. A., jr., Markneukirchen, Saxony.
- 182 Adler, Richard, Markneukirchen, Saxony.
- 183 Kämpffe, Gustav, Markneukirchen, Saxony.
- 184 Paulus, Ernst, Markneukirchen, Saxony.
- 185 Paulus, August, Markneukirchen, Saxony.
- COLLECTIVE EXHIBIT OF MOUTH HARMONICAS.** 327
- 187 Bilger, Chr., Trossingen.
- 188 Hohner, Math., Trossingen.
- 189 Koch, Andreas, Trossingen.
- 190 Messner & Co., Trossingen.
- 191 Hotz, Fr., jr., Knittlingen.
- 192 Jäger, Gottlob, Knittlingen.
- 193 Jäger, Joshua, Knittlingen.
- 194 Müller, C. A., Unterwiesenthal.—Gutstrings. 327
- 196 Euler, A. A., Frankfort-on-Main.—Clarionets, flutes, etc. 327
- 197 Pfaff, F., Kaiserslautern.—Brass and wood instruments. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Musical Instruments, Statistics, Coins.

- 198 Stratton, John F., & Co., Gohlis, near Leipsic.—Violins, etc. 327
- 199 Altenburg & Graue, Bremen.—Piano. 327
- 200 Blüthner, Julius, Leipsic.—Concert grand piano and pianino. 327
- 202 Ibach, Rudolphe, & Son, Barmen.—Concert grand piano and piano. 327
- 203 Kaps, Ernst, Dresden.—Concert grand piano. 327
- 204 Neumann, F. L., Hamburg.—Piano. 327
- 206 Schiedmayer, J., Stuttgart.—Concert grand piano and harmoniums. 327
- 209 Schwechten, G., Berlin.—Pianos. 327
- 210 Seiler, Edward, Liegnitz.—Piano. 327
- 210_a Stahlecker, C. F., Stuttgart.—Metal piano. 327
- 211 Gläsel, Moritz, Marknenkirchen.—Guitars, citherns, violins, etc. 327
- 212 Haslwanter, J., Munich.—Citherns. 327
- 213 Tiefenbrunner, Georg, Munich.—Citherns. 327
- 214 Walcker, E. F., & Co., Ludwigsburg.—Church organ. 327
- 215 Welte, M., & Sons, Freiburg.—Orchestrion. 327
- 216 Trayser, Ph. I., & Co., Stuttgart.—Cabinet organs. 327
- 217 Geyer, W. & Ed., Bros., Eisenberg.—Buckskin for piano manufacturers' use. 327
- 217_a Schlessinger & Lummer, Gera.—Leather for piano manufacturers' use. 327
- 217_b Pohlmann, Moritz, Nuremberg.—Piano strings. 327
- 217_c Huber Bros., Pirmasens.—Hand organ. 327
- Engineering, Architecture, Maps, etc.**
- 217_d Royal Prussian Ministry of Commerce, Trade, and Public Works, Berlin.—Books, statistical tables, and geological maps. 335
- Physical, Social, and Moral Condition of Man.**
- 218 Jungfer, A., Berlin.—Coins and commemorative medals. 344
- 219 Central Committee of the German Associations for the Aid of Wounded and Sick Soldiers in War, Berlin.—Reports, and album of objects exhibited at Vienna in 1873 by the "Red Cross." 346
- 220 Central Committee of the Bavarian Association for nursing and aiding Wounded and Sick Soldiers in time of War.—Model of a fully-dressed and equipped member of the corps. 346
- 221 Directors of the Badish National Aiding Association, Carlsruhe.—Photographs of scenes in hospitals; magazines, etc. 346
- 222 Association of the Circuit and Town of Altona for nursing Sick and Wounded Soldiers, Altona.—Model of a hospital. 346
- 223 Zuelzer, Dr., Berlin.—Model of a hospital and ventilating apparatus, and sanitary statistics of Germany for 1872-74, etc. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

AUSTRIA.

(South of Nave, Columns 23 to 28.)

Educational and Engineering Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Municipality of Vienna.—Photographs of objects pertaining to education. 300
- 2 Fuchs, John Bapt., Emmerich, Gaming.—Artistic penmanship. 300
- 2^a Delhez, Constantine, Vienna.—Gymnastics of the senses. 300
- 3 Brunn, Dr., Vienna.—Plaster cast of the human face. 302
- 5 Politzer, Adam, Vienna.—Anatomical, pathological preparations of the organs of hearing. 302
- 8 Pechar, John, Teplitz, & A. Peez, Vienna.—Statistics of the import, export, and consumption of cotton in Austria in 1871. 305
- 9 Lehmann, Adolf, Vienna.—Residence and business directory. 306

Institutions and Organizations.

- 11 Schmitt, Hans, Vienna.—Piano study and compositions. 313

Scientific and Philosophical Instruments and Methods.

- 13 Kraft, E., & Son, Vienna.—Mathematical instruments. 320
- 14 Kreidl, Alois, Prague.—Chemical and physical apparatus for schools. 320
- 15 Kreuter, Franz, Brunn.—Tachometer, distance poles, leveling poles. 320
- 16 Lenoir & Forster, Vienna.—Chemical, physical, and mineralogical apparatus. 320
- 17 Pagger, F., Trieste.—Nautical instruments. 320
- 18 Florenz, Joseph, Vienna.—Scales and balances, gold and silver precision balances, balance scales, table balances. 322
- 19 Schmidt, John, Vienna.—Measuring and regulating apparatus for petroleum. 322
- 22 Richter, C. W., Oedenburg.—Optical instruments, spectacles. 324
- 23 Plossl, S., & Co., Vienna.—Mechanical and optical instruments. 324
- 24 Kiendl, A., Vienna.—Ciherns. 327
- 25 Cervény, V. F., Koniggratz.—Musical instruments of wood and metal. 327
- 26 Bohland & Fuchs, Graslitz.—Metal instruments. 327
- 27 Fuchs, Daniel, Vienna.—Metal instruments. 327
- 29 Farsky, John F., Pardubitz.—Wind instruments. 327

- 31 Lausmann, John W., Linz.—Wood and metal wind instruments. 327
- 34 Placht Bros., Vienna.—Musical instruments. 327
- 37 Stecher, Karl, Vienna.—Musical wind instruments. 327
- 38 Thie, William, Vienna.—Mouth musical instruments. 329
- 40 Kirchner Bros., Vienna.—Guitar and violin strings. 327
- 41 Robitsek, H., Vienna.—Mouth musical instruments. 327

Engineering, Architecture, Maps, etc.**COLLECTIVE EXHIBIT OF ENGINEERING AND ARCHITECTURAL PHOTOGRAPHS, MODELS, DESIGNS, REPORTS, AND PLANS. 330 to 335**

- 42 Vienna Building Association, Vienna.
- 43 Battig, Anton, Chief Engineer of the State Railroad Co., Vienna.
- 44 Bayer, Rudolph, Vienna.
- 45 Bomches, Fred., Trieste.
- 46 Claus, Heinrich & Gross, Vienna.
- 47 Fellner, Fred., & Hermann Helmer, Vienna.
- 47^a Friedmann, Alex., Vienna.
- 48 Doderer, Wilh., Vienna.
- 49 Danube Regulation Commission, Vienna.
- 49^a Helmer, Hermann, Vienna.
- 50 Dorfel, Julius, Vienna.
- 51 Hornig, Dr. Emil J. R., Vienna.
- 51^a Rziha, Franz, Vienna.
- 52 Ferstel, Heinr. Ritter von, Vienna.
- 53 Flattich, Wilh., & Wilhelm Franz, Vienna.
- 54 Schmidt, Heinrich, Inspector-General of the State Railroad Co., Vienna.
- 55 Forster, Emil Ritter von, Vienna.
- 56 Fraenkel, Wilh., Vienna.
- 57 Gaertner, Ernst, Vienna.
- 58 Gross, E., Vienna.
- 59 Hansen, Theopil Ritter von, Vienna.
- 60 Hintrager, Moritz, Vienna.
- 61 Hlubek, Peter, Vienna.
- 62 Holder, Alfred, Vienna.
- 63 Schmoranz, Franz, Vienna.
- 64 Klein Bros., Vienna.
- 65 Klunzinger, Paul, in Belhazona.
- 66 Delhez, Constantine, Vienna.
- 67 Lazar, Adolph, Vienna.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-

Engineering Designs, Commercial and Industrial Statistics.

- 68 Lehmann & Wentzel, Vienna.
- 69 Lohr, August Ritter von, Vienna.
- 70 Frankl, Ludwig August, Vienna.
- 71 Morawitz, Moriz, Vienna.
- 73 Obach, Theodore, Vienna.
- 74 Paradeiser, W., Pola.
- 75 Neitsche, R., Olmütz.
- 76 Popovits, Lazar, Marchegg.
- 77 Schachner, Friedrich, Vienna.
- 78 Rumpelmayer, Victor, Vienna.
- 79 Schlimp, Carl, Vienna.
- 80 Schmidt, Friedr., Vienna.
- 81 Schmidt, Heinrich, Vienna.
- 82 Schmoll, Adolph von, Eisenwerth.
- 83 Schon, John George, Brunn.
- 84 Schrabetz, Emil, Vienna.
- 85 Serres, August de, Vienna.
- 86 "Stadtbauamt of Vienna."
- 87 Tilp, Emil, Vienna.
- 88 Pechar, Johann, Teplitz.

- 90 Waldheim, R. von, Vienna.
- 91 Wentzel, Vienna.
- 93 Wilhelm, Franz, Vienna.
- 94 Winkler, Dr. Emil, Vienna.

- 95 Bader, F. W., Vienna.—Design of the city of Vienna. 335

Physical, Social, and Moral Condition of Man.

- 96 Commission in Vienna for the Philadelphia Exhibition, Vienna.—Graphical representation of the productions and foreign commerce of Austria, of its savings banks, etc. 343
- 96a Frankl, Lewis A., Vienna.—Plans and descriptions of the Institute for the Blind in Vienna. 346
- 97 First Ordinary Civil Social Union of the Austro-Hungarian Monarchy, Vienna.—Representation of the activity and development of co-operative union of the Austro-Hungarian monarchy. 347

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Books, Educational Appliances, Statistics.

Educational Systems, Methods, and Libraries.

- 1 Board of Education of the Canton of Appenzell Ausserrhoden.—Laws and regulations, books, maps, and plans. 300
- 2 Board of Education of the Canton of Basle City.—Annual accounts of the department of public instruction, reports and prospectus of the schools, school-books, plans of the Bernoullianum, special schools. 300
- 3 Board of Education of the Canton of Berne.—Obligatory and facultative text books and apparatus used in elementary and higher schools, laws and regulations, reports and plans. 300
- 4 Board of Education of the Canton of Fribourg.—Laws and regulations, books, maps, and plans. 300
- 5 Board of Education of the Canton of Geneva.—Obligatory and facultative text books and apparatus used in elementary and higher schools, laws and regulations, reports and plans. 300
- 6 Board of Education of the Canton of Lucerne.—Laws and regulations, books, maps, and plans. 300
- 7 Board of Education of the Canton of Neuchâtel.—Laws and regulations, books, maps, and plans. 300
- 8 Board of Education of the Canton of Solothurn.—Laws and regulations, books, maps, and plans. 300
- 9 Board of Education of the Canton of Zurich.—Obligatory and facultative series of books and apparatus used in elementary and higher schools, models and maps for instruction in drawing, laws and regulations, reports and plans. 300
- 10 Kindergarten, St. Gallen.—Collection of work and employments for children; "the education of children according to Fröbel's principles," by J. Wellauer, director of the orphan asylum St. Gallen, 1872, annual reports, statutes, and prospectus. 300
- 11 Beust, F., Hottingen, near Zurich.—Educational system, constructive method, for children of five to twelve years, text books, maps, models, apparatus, and pupils' work in mathematics, geography, and natural history. 300
- 12 Zollikofer Female Seminary, Romanshorn, Ct. Thurgau.—Publications, manuscripts, album of works executed by pupils. 300
- 13 Bachmann, Franz., Winikon, Ct. Lucerne.—Intuitive principle of instruction, tables and appliances. 300
- 14 Ferri, Felix, Lugano, Ct. Tessin.—Tables and album for the drawing of architectural ornaments. 300
- 15 Ganz, J., Zurich.—Photographs of microscopic preparations for instruction in natural sciences. 300
- 16 Hindermann & Siebenmann, Zurich.—Illustrations for little children, M. Staub's method. 300
- 17 Götzinger, Dr. E., St. Gallen.—Systematic course of topographical drawing. 300
- 18 Hofer, J. J., Zurich.—Korrod's copy writing-books. 300
- 19 Kaiser, Dr., St. Gallen.—Table for instruction in chemistry. 300
- 20 Keller, Heinrich, Zurich.—Large school map of Switzerland. 300
- 20a Lussy, Mathis, Stanz, Ct. Unterwalden.—Systematical course for musical studies. 300
- 21 Unterstrass Modeling School, near Zurich.—Pupils' work in modeling. 300
- 22 Paroz, J., Pesieux, Ct. de Neuchâtel.—History of pedagogy, elementary instruction, intuitive multiplication table, table for the learning of fractions. 300
- 23 Rikli, Carl, Wangen, Ct. Berne.—Historical and chronographical tables. 300
- 24 Stierlin, Dr. R., Lucerne.—Model of the glacier garden at Lucerne. 300
- 25 Steidinger, J., Therwyl, Ct. Basle-Land.—Writing-copies for the French ronde. 300
- 26 Zwicky-Laager, C., Mollis, Ct. Glarus.—Atlas of drawings for elementary schools. 300
- 27 Largiadér, Rorschach, Ct. St. Gallen.—School-bench with movable reading-desk. 300
- 28 Saint George, W. H., de Nyon, Ct. de Vaud.—Treatise on the construction and hygiene of school-houses. 300
- 29 Agricultural & Professional Colony of Suisse romande, Serix, near Oron, Ct. de Vaud.—Statutes. 302
- 30 Free School for Apprentices, St. Gallen.—Report of the institution, selection of pupils' work. 302
- 31 Industrial School Association, Zurich and vicinity.—First report, 1875. 302
- 32 Asylum for Girls, B. Rittmeyer & Co., St. Gallen.—Reports, 1869-1873. 302
- 33 Dairy Station, Lausanne, Mont Riond, Canton de Vaud.—Collection of writings on dairying and on Alpine cultivation. 303

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

Educational Appliances, Statistics, Reports, Scientific Instruments.

- 34 Drawing School of the Board of Trade, St. Gallen.—Competition works of pupils, album of drawings by pupils, school report. 302
- 35 Blind Asylum, Lausanne, Ct. Vaud.—General regulations, Lausanne, 1864; reports, 1873-1874. 302
- 36 Private Blind Asylum, Berne.—Statutes, Berne, 1874; constitutional report, 1862; annual reports, 1861 to 1874. 303
- 37 Deaf & Dumb Asylum, Canton Vaud, Moudon.—Regulations, 1874. 303
- 38 Institution for Deaf Mutes, Aarau, Ct. Aargau.—Report, 1874. 303
- 39 Institution for Deaf Mutes, Riehen, near Basle.—Prospectus, reports, and accounts, 1874; list of lessons, 1875-1876; view of the establishment; travels, by G. Jørgensen; courses of study and appliances of instruction. 303
- 40 Institution for Deaf Mutes, St. Gallen.—Statutes of the Society for the Education of Deaf and Dumb Children, annual reports, 1873-1875. 303
- 41 Institution for Feeble-minded Children, Weissenheim, near Berne.—Annual reports, Berne, 1869 and 1872. 303
- 42 Federal Statistical Office.—Statistics of public instruction in Switzerland, by H. Kinkelde. 304
- 43 Federal Polytechnical School, Zurich.—Report on the organization, laws, and regulations, plans of the localities. 304
- 44 Christen, J. J., Aarau.—Manuals for instruction, school books. 306
- 45 Dalp, J., Berne.—Manuals for instruction, school books. 306
- 46 Hitz, Chur, Ct. Graubünden.—Manuals for instruction, school books. 306
- 47 Huber, Jacques, Frauenfeld.—Pedagogical reviews, school books, drawing, musical works, agricultural instruction. 306
- 48 Meisel, C. J., Herisau, Ct. Appenzell, Inner Rhodes.—Manuals for instruction, school books. 306
- 49 Orell, Füssli, & Co., Zurich.—Manuals for instruction, school books. 306
- 50 Sauerländer, H. R., Aarau, Ct. Aargau.—Manuals for instruction, school books. 306
- 51 Scheitlin & Zollikofer, St. Gallen.—Collection of manuals, books of instruction, maps. 306
- 52 Shulthess, Friedr., Zurich.—Manuals for instruction, school books. 306
- 52a Sonderegger, Y. Y., St. Gallen.—Manuals for instruction. 306
- Institutions and Organizations.**
- 53 Federal Statistical Office.—The savings banks of Switzerland, by J. L. Spyri, statistics of the newspapers in Switzerland, by Kinkelde; history of the schools of the Canton of Berne, by J. J. Kummer. 311
- 54 Swiss Geodetical Commission.—Determination of longitudes, determination of pendulum-lengths, leveling of Switzerland. 311
- 55 Swiss Geological Commission.—Geology and geological maps of Switzerland. 311
- 56 Swiss Meteorological Commission.—Meteorological observations. 311
- 57 Swiss Statistical Society.—The mutual relief societies of Switzerland in 1865, by H. Kinkelde; the public libraries in Switzerland in 1868, by E. Heitz. 311
- 58 Swiss Society for the Advancement of Natural Philosophy.—New memoirs, minutes, and reports; history of the society, statutes, list of members. 311
- 59 Swiss Historical Society.—List of documents on Swiss history, archives of Swiss history, indicator for Swiss history (informant). 311
- 60 Swiss Alpine Club.—Annual reports, itineraries, maps. 311
- 61 Association of the Canton of Aargau for the Advancement of Natural Philosophy.—The scarcity of water in the Canton of Aargau, paper read at the 500th session, map of erratic blocks. 311
- 62 Historical Society, St. Gallen.—Reports, annual papers. 311
- 63 Society for the Advancement of Natural Philosophy, Basle.—Proceedings 1867-1873, paper read at the 50th anniversary. 311
- 64 Society for the Advancement of Natural Philosophy, Berne.—Proceedings 1843-1874. 311
- 65 Society for the Advancement of Natural Philosophy of the Canton of Graubünden.—Annual reports, statutes, papers on natural sciences. 311
- 66 Society for the Advancement of Natural Philosophy of the Canton of St. Gallen.—Reports and proceedings 1868-1874, and speech at the 50th anniversary by Dr. Wartmann. 311
- 67 Observatory, Neuchâtel.—Reports and divers papers, photographs of astronomical instruments. 311
- Scientific and Philosophical Instruments and Methods.**
- 68 Gysi, Fr., Aarau, Ct. Aargau.—Complete collection of mathematical drawing instruments. 320
- 69 Herman & Pfister, Berne.—Polaristrometers, hair-hygrometers, metallic thermometer. 320
- 70 Hipp, M., Neuchâtel.
a Chronoscope and chronograph with auxiliary apparatus. 320
b Registering apparatus. 321
c Regulators, tower, double dial, and electric clocks. 323
d Telegraph apparatus, Morse's system. 326
- 71 Kern, J., Aarau, Ct. Aargau.—Swiss drawing instruments, transits, theodolites, leveling instruments. 320
- 72 Amsler-Laffon, J., Schaffhausen.—Planimeters, integrators, Woltmann's current meter with electrical indication. 321
- 73 Aepli & Landry, Madretsch, near Bienne, Ct. de Berne.—Watches and pieces showing the successive phases of the fabrication. 323
- 74 Watch-makers' Union (J. B. Gossy & Co.), Chaux-de-Fonds, Ct. Neuchâtel.—Gold and silver watches. 323

Watches, Jewelry, Musical Instruments, Engineering Designs.

- 75 **Antony-Bovy, J. E., Chaux-de-Fonds, Ct. Neuchâtel.**—Watch-hands, stems, rings, detached parts for stem-winders, steel cogwheels. 323
 - 76 **Aubert Bros., Savagnier, Ct. Neuchâtel.**—Springs for watches. 323
 - 77 **Audemars, Ls., Brassus, Ct. Vaud.**—Watches and chronometers. 323
 - 78 **Badollet, J. M., & Co., Geneva.**—Watches and pocket chronometers. 323
 - 79 **Bähni Brot., Bienne, Ct. Berne.**—Hairsprings of steel, tempered. 323
 - 80 **Berlie, Edouard, Geneva.**—Lamina of hardened steel for lithographic pens and springs of watches. 323
 - 81 **Besançet-Blanc, Eug., Travers, Ct. Neuchâtel.**—Ruby jewels for watches, cap jewels, jeweling of a repeating watch, two bridges with jewels set in gold, duplex rollers, English style; impulse jewels for chronometer escapements, cylinders and plugs. 323
 - 82 **Bitterlin-Schmidt, J. B., Locle, Ct. Neuchâtel.**—Precious stones and jewels for jewelers and watch manufacturers, diamant powder. 323
 - 83 **Borel & Courvoisier, Neuchâtel.**—Chronometers, watches, and movements of watches. 323
 - 84 **Bretting Bros., Locle, Ct. Neuchâtel.**—Pocket chronometers, lever escapement, spring, with Philipp's system of double-curve. 323
 - 85 **Fleischmann, Fritz, Piguet, & Co., Geneva.**—Tempered steel for spirals. 323
 - 86 **Huguenin, A., & Son, Locle, Ct. Neuchâtel.**—Watches, chronometers, and detached pieces. 323
 - 87 **Colliot Désiré, St. Imier, Ct. Berne.**—Silver watches. 323
 - 88 **Corcelle, J., & Co., Geneva.**—Enamel watch-dials. 323
 - 89 **Didisheim, Gabriel, St. Imier, Ct. Berne.**—Watches. 323
 - 90 **Ducommun, D., Gorgier, Ct. Neuchâtel.**—Movements of watches, stem-winders and key-winders. 323
 - 91 **Dufaux, Lutz, & Son, Geneva.**—Watch spirals. 323
 - 92 **Ekegrén, Hr., Geneva.**—Chronometers. 323
 - 93 **Favre Bros., Neuveville, Ct. Berne.**—Watches of silver and German silver. 323
 - 94 **Francillon, Ernest, & Co., St. Imier, Ct. Berne (Longines Watch Co.).**—Watches, watch movements, detached pieces for key and stem-winders. 323
 - 95 **Frankfeld, Louis, & Co., Geneva.**—Chronographs, star-watches, movements, patent stem-winders. 323
 - 96 **Grandjean, Hry., & Co., Locle, Ct. Neuchâtel.**—Marine and pocket chronometers, watches. 323
 - 97 **Grandjean-Perrenoud, Henry, Chaux-de-Fonds, Ct. Neuchâtel.**—Engravings for watches. 323
 - 98 **Honegger, G., Bienne, Ct. Berne.**—Movements of platina, nickel, and parts of watches. 323
 - 99 **Humbert, Ernest, Locle, Ct. Neuchâtel.**—Watches. 323
 - 100 **Jacot Bros., Locle, Ct. Neuchâtel.**—Pocket chronometers. 323
 - 101 **Jeanjaquet, Chs., Neuchâtel.**—Springs for watches, steel for lithographic pens. 323
 - 102 **Klein, E., Geneva.**—Springs for watches. 323
 - 103 **Ingold, P. F., Chaux-de-Fonds, Neuchâtel.**—Cutters for giving the teeth of watch wheels the true form. 323
 - 104 **Martin, Ch., & Co., Geneva.**—Geneva watches, stem-winders. 323
 - 105 **Matile, H. Ls., Locle, Ct. Neuchâtel.**—Precision watches. 323
 - 106 **Leuenberger & Son, Summiwald, Ct. Berne.**—Clocks and regulator. 323
 - 107 **Montandon, C., Gentil-Lutz, Servette, near Geneva.**—Tempered steel for spirals. 323
 - 108 **Nardin, James, Locle, Ct. Neuchâtel.**—Pocket chronometers, precision watches. 323
 - 110 **Patek, Philippe, & Co., Geneva.**—Pocket chronometers and watches. 323
 - 111 **Perrenoud, Aimé, Terreaux, Geneva.**—A constant force escapement for chronometers, assortment of spirals of gold and tempered steel. 323
 - 112 **Perret's, D., Son, Neuchâtel.**—Watches. 323
 - 113 **Rauss, Ami, Geneva.**—Enameled dials for watches. 323
 - 114 **Rigtrup, R. S., Locle, Ct. Neuchâtel.**—New mechanism for Lepine watches without fusee. 323
 - 117 **Stahl, Maurice, Chaux-de-Fonds, Ct. Neuchâtel.**—Chronometers and watches. 323
 - 118 **Tagliab, Carl, Zurich.**—Watch in a finger-ring. 323
 - 119 **Jaques, Adank J., & Co., Ste. Croix, Ct. Vaud.**—A musical box, mandoline, with zither. 327
 - 120 **Brémond, B. A., Geneva.**—Musical boxes. 327
 - 121 **Karrer & Co., Teufenthal, Ct. Aargau.**—Musical boxes and fancy articles. 327
 - 122 **Karrer, S., Teufenthal, Ct. Aargau.**—Musical boxes. 327
 - 123 **Paillard, C., & Co., Ste. Croix, Ct. Vaud.**—Musical boxes with vocal attachments. 27
 - 125 **Trost, J., & Co., Zurich.**—Upright piano forte. 327
- (Machines and tools pertaining to watch-making are also exhibited in this department, but classified under Class 535.)
- Engineering, Architecture, Charts, Maps, etc.**
- 127 **Building Department of the Canton of Basle-Stadt.**—Plans for the enlargement of the city of Basle. 330
 - 128 **Building Direction of the Canton of Aargau.**—System of roads, wooden bridges, canals, water-power. 330
 - 129 **Building Inspection of the Canton of Graubünden.**—Correction of the Rhine in the Grisons. 330

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Engineering and Architectural Designs.

- 130** Department of the Interior, Swiss Confederation, Berne.—Measures taken to correct and regulate the rivers and waters of Switzerland. 330
- 131** Department of Public Works, Canton of Vaud.—Public works, cost of various roads, drawings of objects of art. 330
- 132** Department of Public Works of the Canton of Berne.—Plans, maps, atlases, literary works, bridges for public roads, correction of rivers of the Jura mountains. 330
- 133** Swiss Society of Engineers & Architects.—The Swiss system of roads, iron bridges, water supply and canalization in Swiss towns. 330
- 134** Municipality of Chaux-de-Fonds, Ct. Neuchâtel.—Plans of the town of La Chaux-de-Fonds, 1794-1841, and for its enlargement. 330
- 135** Government of the Canton of St. Gallen.—System of roads and highway bridges, correction of the Rhine. 330
- 136** Rothenbach, Director of the City Gas and Water Works, Berne.—Gas works of Berne. 330
- 137** Rieter, Joh. Jacob, & Co., Winterthur, Ct. Zurich.—Photographs of turbines, with accessories, and of wire-rope transmissions. 331
- 138** Weissenbach, W. C. E., Zurich.—The water-powers of Switzerland. 331
- 139** Department of Railroads & Commerce, Swiss Confederation, Berne, Bureau of Statistics.—Statistics of Swiss railways. 332
- 140** Department of Railroads & Commerce, Swiss Confederation, Berne, Scientific Bureau.—Standard drawings, forming part of the government regulations for Swiss railways. 332
- 141** Department of Railroads & Commerce, Swiss Confederation, Berne, Gothard Inspection.—Report of the Gothard railway, geological tables and sections. 332
- 142** Railroads of Jura-bernoise.—Photographs of railway works, general plan and longitudinal sections, railway construction, Zimmeregg tunnel. 332
- 143** Gothard Railway Co.—Longitudinal sections of the line and tunnel, plans, collection of specimens of the most important rocks found in the great tunnel. 332
- 144** Swiss Society of Engineers & Architects.—Development and longitudinal sections of the Swiss railways. 332
- 145** Swiss National Railway Co., Winterthur, Ct. Zurich.—Drawings of bridges. 332
- 146** Swiss Northeast Railway Co., Zurich.—Plans, photographs, etc., of railway construction, its lines, rolling stock, etc. 332
- 147** Swiss Locomotive & Machine Works, Winterthur, Ct. Zurich.—Photographs of locomotives. 332
- 148** Tobler, Chief Engineer of the Utilberg Railway, Zurich.—Description and drawings of the Utilberg railway and its rolling stock. 332
- 149** Tössthal Railway, Winterthur, Ct. Zurich.—Surveys and plans, sections, bridges, carriages with two stories, etc. 332
- 149a** United Railroads of Switzerland.—Plans for railroads across the Splügen and the Lukmanier passes. 332
- 150** Württemberg, Von, Chief Engineer of the Swiss Central Railway, Basle.—Plans and drawings for the construction of the new lines. 332
- 151** Department of Forests & Streams, Canton Berne.—Plans of the new military buildings at Berne. 332
- 152** Federal Topographical Bureau.—Maps and atlases of Switzerland. 335
- 152a** Beck, Edward, Bern.—Relief map of Switzerland and the Jura. 335
- 153** Leuzinger, R., Berne.—Section of "Grono," from the topographical atlases of Switzerland. 335
- 154** Wurster, Randegger, & Co., Winterthur, Ct. Zurich.—Atlases and maps, scientific works on geography and natural history. 335

Physical, Social, and Moral Condition of Man.

- 156** Brunner, Ad. & Fr., Zurich.—Centralhof at Zurich (reconstruction of the old post-office sketches and photographs of Swiss villas). 342
- 159** Department of Public Works, Canton Berne.—Plans of new, and photographs of existing public buildings. 342
- 161** Gladbach, Professor at the Federal Polytechnic School, Zurich.—Wood architecture of Switzerland. 342
- 162** Goss, J. E., Geneva.—Plans of the theatre in Geneva. 342
- 163** Guyer, Eduard, Zurich.—Modern hotels, their architecture, arrangement, and management. 342
- 164** Hartmann, Nicolaus, St. Moritz, Ct. Graubünden.—Plans of the villa Schickler in St. Moritz (Engadin), plans of Hof St. Moritz and of the hotels du Lac and Victoria. 342
- 166** Jeuch, Caspr., Baden, Ct. Aargau.—Plans of the barracks in Aarau. 342
- 167** Jung, E., Winterthur, Ct. Zurich.—Photographs and ground plans of existing dwellings. 342
- 168** Koch, Alex., Zurich.—Plans for private residences and a school-house. 342
- 169** Maring, Basle.—Plans of the hall for the federal singing festival, 1875. 342
- 171** Moser, Robert, Baden, Ct. Aargau.
a Churches. 342
b Houses of correction. 345
- 172** Municipality of Geneva.—Gallery Rath, school-house at Geneva. 342
- 173** Parquetry Factory, Interlaken, Ct. Berne.—Plans of Swiss cottages. 342
- 175** Town Council of Winterthur.—Plans of the town hall. 342
- 176** Stehelin, Basle.—Plans of the theatre and Bernoullianum in Basle. 342
- 178** Zurich Joint Stock Co. (Beneficent society for cheap dwellings).—Plans of cheap dwellings. 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Architectural Designs, Reports, Statistics.

- 179 Kunz, Heinrich, Zurich (Cotton Manufactories).—Workmen's dwellings at his cotton mill at Windisch. 342
- 180 Rieter, Joh, Jacob, & Co., Winterthur, Ct. Zurich.—Workmen's dwellings. 342
- 181 Rittmeyer, B., & Co., St. Gallen.—Workmen's dwellings. 342
- 182 Sarasin & Co., Basle.—Workmen's dwellings. 342
- 183 Sulzer, Bros., Winterthur, Ct. Zurich.—Workmen's dwellings. 342
- 184 Direction of the Zoological Gardens at Basle.—Plans of the zoological garden in Basle. 342
- 185 Swiss Society for Penitentiary Reform.—Plans and views of the principal houses of correction in Switzerland, regulations of organization, documents upon the management of prisons. 345
- 186 Swiss Society for Promoting the Public Welfare.—History, Swiss periodical for public utility. 346
- 186a Society for the Education of the Poor, Lenzburg, Ct. Aargau.—Reports and statutes. 346
- 187 Society for Promoting the Public Welfare, Ct. Appenzell, Inner Rhodes.—Annual reports. 346
- 187a Ernst, Heinrich, Zurich.—Plans of the children's hospital at Zurich. 346
- 188 Society for Promoting the Public Welfare, Basle.—Historical reports, statutes, and pamphlets. 346
- 188a Evangelic Missionary Association, Basle.—Annual report. 346
- 189 Society for Promoting the Public Welfare, Ct. Glarus.—Reports. 346
- 190 Society for Promoting the Public Welfare, Ct. St. Gallen.—Proceedings. 346
- 190a Aid Society, Herisau, Ct. Appenzell.—Reports and statutes. 346
- 191 Society for Promoting the Public Welfare, Canton Zurich.—Statutes, reports, catalogue of popular works. 346
- 192 Geneva Society for Public Utility.—Proceedings, reports. 346
- 192a Richter-Linder's Institute, Schoren, near Basle.—Report on the house of refuge. 346
- 193 Vaudoise Society for Public Utility.—Reports. 346
- 193a Swiss Reformatory Institute for boys, Bächelen, near Berne.—General report. 346
- 194 Department of the Interior, Swiss Confederation, Federal Statistical Office.—Statistics of the Swiss establishments for the education of orphans and abandoned children, also for the deaf, dumb, and blind, by J. Wellauer and J. Müller. 346
- 195 Swiss Society for Instructing the Poor.—Descriptions of the asylums for the poor, minutes, report of the Society of Teachers for the Poor. 346
- 196 Society for Instructing the Poor, District of Aarau, Ct. Aargau.—Statutes, programmes, contracts, annual reports. 346
- 196a Building Direction, Canton Aargau.—Plans of the lunatic asylum at Königsfelden. 346
- 197 Institution for Instructing the Poor, Canton Basle-Land.—General report. 346
- 197a Department of Public Works of the Canton Vaud.—Plans of the lunatic asylum at Lausanne. 346
- 197b Department of Public Works, Canton Zurich.—Plans of the lying-in hospital at Zurich. 346
- 198 Institution for Instructing the Poor, Zurzach District, Ct. Aargau.—Statutes, annual reports. 346
- 199 Home Industry Society for Zurich and Vicinity.—Report, statutes, regulations. 346
- 200 Aid Society, St. Gallen.—Annual reports. 346
- 201 Aid Society, Zurich.—Reports, etc. 346
- 202 Mutual Aid Society, Val de Travers, Ct. de Neuchâtel.—Statutes, regulations, general report. 346
- 203 Wellauer, J., St. Gallen.—Report of the Society for the Education of the Poor, Swiss schools for the poor, by J. C. Zellweger. 346
- 204 Blüsch, Eduard, Berne.—Reports of his orphan asylum in Klein-Wabern, Berne. 346
- 205 Orphan Asylum, Neuchâtel.—Reports, contracts, formulas; notes about Belmont. 346
- 206 Orphan Asylum, Dailens-Cossongay-Penthaz, Ct. Vaud.—Regulations and reports. 346
- 207 French Orphan Asylum, Wabern, Ct. Berne.—Report. 346
- 208 Orphan Asylum, Basle.—Description and history, annual reports, publications, plans, and views. 346
- 209 Orphan Asylum, St. Gallen.—The orphan asylum in St. Gall by F. von Tschudi, reports, statutes, plans of buildings, etc. 346
- 210 City Orphan Asylum, Zurich.—Reports, statutes, regulations, photographs, samples of pupils' clothing. 346
- 211 Aargau Reformatory, Olsberg, Ct. Aargau.—Reports. 346
- 212 Grube Institution for Instructing the Poor, Ct. Berne.—Specimens of pupils' work. 346
- 213 Institution for Instructing Poor Girls, Steinhölzli, near Berne.—Report, 1874. 346
- 214 Hosang Foundation, School for the Poor, near Chur.—Regulations for the admission of pupils into the establishment. 346
- 215 Bundner Reformatory, Foral, near Chur, Ct. Graubünden.—Annual reports of the orphan asylum. 346
- 216 Friedeck Reformatory Home, Buch, Hegau, Ct. Schaffhausen.—Historical report, specimens of pupils' work. 346
- 217 Swiss Reformatory, Sonnenberg, near Lucerne.—Statutes, circulars, reports, specimens of pupils' work, etc. 346
- 218 Toggenburg Reformatory, Hochsteig, near Watwil, Ct. St. Gallen.—Statutes, annual reports. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27

Art, Watch-making Machinery.

219 Victoria Institute for Poor Girls of the Canton of Berne, Klein-Wabern, near Berne.—Regulations for admission, organization, report. 346

219a Young Merchants Union of Switzerland.—General report of proceedings. 347

Sculpture.

220 Abegglen-Perrin, Iseltwald, Ct. Berne.—Chalets, with and without music and clocks. 405

221 Abplanalp, J., Brienz, Ct. Berne.—Wood-carvings. 405

222 Baumann, A., Vater & Son, Brienz, Ct. Berne.—Wood-carvings. 405

223 Bergen, C., von, & Co., Interlaken, Ct. Berne.—Wood-carvings. 405

224 Eggler, Jakob, Brienz-Oberdorf, Ct. Berne.—Wood-carvings. 405

225 Eggler, Johann, Brienz, Ct. Berne.—Wood-carvings. 405

226 Flück, J., Fluhberg, near Brienz, Ct. Berne.—Wood-carvings. 405

227 Germann & Eggler, Brienz, Ct. Berne.—Wood-carvings. 405

228 Grossmann, Joh., Ringgenberg, near Interlaken, Ct. Berne.—Wood-carvings. 405

229 Jäger, Jb., & Co. Brienz, Ct. Berne.—Wood-carvings. 405

230 Imboden Bros., Ringgenberg, near Interlaken, Ct. Berne.—Wood-carvings. 405

231 Klein, J. F., & Son, Meiringen, Ct. Berne.—Wood-carvings. 405

232 Sterchi, Fritz, Interlaken, Ct. Berne.—Wood-carvings. 405

234 Zumbrunn, Schmoker, & Co., Ringgenberg, Interlaken, Ct. Berne.—Wood-carvings. 405

Painting.

235 Glardon, C. L., Geneva.—"The Morning" (after Greuze); enamel for a watch, of Badollet's exhibition. (See No. 78, p. 355.)

Engraving and Lithography.

236 Rieter-Biedermann, J., Winterthur, Ct. Zurich.—Printed music and engravings. 421

237 Bonnet, Charles, & Co., Geneva.—Types, borderings, ornaments cut in wood, for printers and lithographers. 422

238 Bonfantini, G. A., Basle.—Typographical album, dedicated to the printers of Philadelphia. 422

239 Meyer, Theodor, Schaffhausen.—Wood-cuts. 422

240 Westfeling, J., Winterthur, Ct. Zurich.—Catalogue, Swiss section. 422

241 Orell, Füssli, & Co., Zurich.—Letterpress plates, chemical engraving, wood engravings reduced, plates for paper money, sample sheets and books. 423

242 Hindermann & Siebenmann, Zurich.—Chromo-lithographs. 424

243 Knüsel, Caspar, Zurich.—Chromo-lithographs. 424

Photography.

244 Charnaux, F., Geneva.—Photographs of the glaciers of Switzerland. 430

245 Ganz, J., Zurich.—Photographs. 430

246 Gut, Jean, & Co., Zurich.—Photographs. 430

247 Linck, J., Winterthur, Ct. Zurich.—Photographs. 430

248 Nicola-Karlen, Emil, Berne.—Swiss photographs. 430

249 Richard, T., Son, Männedorf, Ct. Zurich.—Album of photographs, Swiss costumes, Swiss myths and traditions, Swiss landscapes. 430

250 Simona, Giorgio, Locarno, Ct. Tessin.—Photographs. 430

251 Täscher Bros., St. Fiden, near St. Gallen.—Photographs. 430

252 Zacher, C., Zurich.—Photographs. 430

Machines for Making Watches.

253 Servet, J. Marc, Son, Geneva.—Tools and instruments for watchmakers and jewelers. 535

254 Borel-Petitpierre, Ls., Couvet, Ct. Neuchâtel.—Tools and instruments for watch manufacturing. 535

255 Grobet, François Louis, Vallorbes, Ct. Vaud.—Tools and instruments for watch manufacturing. 535

256 Keigel, Auguste, Couvet, Ct. Neuchâtel.—Equalizing machine, lathes, tool for forging wheels, deepening tool. 535

257 Leresche-Golay, Jules, & Co., Vaulion, Ct. Vaud.—Files, tools, and instruments for watch manufacturing. 535

258 Vautier, St., & Sons, Carouge, near Geneva.—Tools and instruments for watch manufacturing and for jewelers. 535

259 Berlie, Edouard, Geneva.—Tools and gravers. 535

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

BELGIUM.

(North of Nave, Columns 54 to 59.)

Educational Books and Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Arens, Antoine, Namur.—School books. 300
- 2 Crevecœur, Henri Stanislas Joseph, Orp-le-Grand (Brabant).—Statistical lists for school teachers. 300
- 3 Genoncaux, Louis, Bruges.—School books. 300
- 4 Belgian Government Educational Department.—Type of school furniture approved by the Belgian government. 300
- 5 Happel, J., Antwerp.—Adjustable desk, perambulators. 300
- 6 Landrien, Bernardin, Mechlin.—School books. 300
- 7 Licot, Feuillien; Nivelles (Brabant).—Work on drawing. 300
- 8 Lory-Delaet, Pierre, Brussels.—Writing method adopted by the Belgian government. 300
- 9 Petry, Adolphe, Mons (Hainaut).—Arithmometer. 300
- 10 Stebert, Pierre, Tongres, Limbourg.—Essay on education, etc. 300
- 11 Van Havermaet, Henry, Brussels.—Furniture used in orphan asylums. 300
- 12 Claesen, Ch., Liège.—Works on art. 302
- 13 Colinet, Ed., Brussels.—Work on art. 302
- 14 Stroesser, Jean-Pierre, Brussels.—Solids represented in profile by metallic wire. 302
- 15 Van der Molen, A., & Co., Brussels.—Works on architecture and sculpture. 302
- 16 Lebon, Leon, Brussels.—Educational works. 306
- 17 Dessain, H., Mechlin, Province of Antwerp.—Prayer, liturgy, and other books. 306
- 18 Du Fief, J., Brussels.—School books on geography. 306
- 19 Callewaert Bros., Brussels.—School books, Callewaert's dictionaries. 306
- 20 De Cuyper, C., & Noblet, A., Liège.—Works on mining, etc. 306
- 21 De Koninck, Laurence Wm., Liège.—Works on paleontology. 306
- 22 Destexhe, A. M. T. J., Modave, Province of Liège.—Works on instruction. 306
- 23 Dujoux, J. B. C., Brussels.—Special collection of patents. 306
- 24 Landrien, Bernardine, Mechlin.—School books. 306

- 25 Manceaux, Hector, Mons (Hainaut).—School books. 306
- 25a St. Nicolas, Ch., East Flanders.—School books. 306
- 26 Meeus, Jules, Brussels.—Belgian "Industrial Monitor" (newspaper). 306
- 27 Van Holsbeek, Henry, Brussels.—Works on hygiene. 306

Institutions and Organizations.

- 28 Educational Union, Brussels.—Works on instruction. 310
- 29 Doings of Popular Evening Parties of Verviers, Verviers.—Publications, etc. 310
- 30 Toekomst Society, Antwerp.—Reports, etc. 310
- 31 Maelen, Joseph van der, Molenbeek St. Jean, near Brussels.—Geographical works. 310
- 32 Namur Artistic Literary Club, Namur.—Annals of the Club. 311
- 33 Entomological Society of the Royal Museum of Natural History of Belgium, Brussels.—Reports, etc. 311
- 34 Limbourg Scientific & Literary Society, Limbourg.—Publications. 311
- 35 Artists' Union, International Club of Fine Arts, Liège.—Statutes, etc. 311
- 36 Morning Star Royal Society, Brussels.—Dramatic, literary, and choral works. 313
- 37 Meerens, Charles, Brussels.—Music and musical works. 313

Scientific and Philosophical Instruments and Methods.

- 39 Le Boulengé, Paul Emile, Liège.—Telemeter for the battle-field. 321
- 40 Linglin, Edward, Charleroi.—Centrifugal power regulator. 321
- 41 Majolini, Francis, La Louvière (Hainaut).—Platform scale for railroads. 322
- 42 Carotte Dobbels, D., Meulebeke, near Courtrai, West Flanders.—Lightning rod without joints. 326
- 44 Mahillon, C., Brussels.—Wind instruments. 327

Engineering, Architecture, Maps, etc.

- 47 Tellier, Adolphus Le, Saint Gilles, near Brussels.—Filters. 330
- 51 Malaise, C. H. G. L., Gembloux.—Agricultural chart. 330

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-1

Physical Development, Benevolent and Industrial Associations.

Physical, Social, and Moral Condition of Man.

- 52 Dries, Loïs Francis, Saint Gilles, near Brussels.—Gymnastics at primary and ward schools, etc. 340
- 53 Schmitz, Peter, Liège.—Treatises on gymnastics. 340
- 54 Brussels Gymnastic Association, Brussels.—Statutes. 340
- 56 Relief Association for the Needy.—Statutes and annual reports. 346
- 57 Boniotti, Peter, Brussels.—Document relating to the association for free medical assistance. 346
- 58 Royal Society for the Prevention of Cruelty to Animals, Brussels.—Publications, etc. 346
- 59 Warlomont, Dr., Brussels.—Vaccine and its distribution to physicians. 346
- 59a Manufacturers' Joint Stock Co., St. Nicholas, East Flanders.—Statutes. 347
- 60 Permanent Commission of Mutual Relief Associations, Belgium.—Reports, etc. 347
- 61 Laurent, Francis, Ghent.—Works on the improvement of the working classes. 347
- 62 Mechlin Savings Bank, Mechlin.—Reports, etc. 347
- 63 Schoenfeld, H., Brussels.—Reports, etc., of the Belgian Medical Profession Pension Fund. 347
- 64 Grivegnée Co-operative Expenditure Society, Grivegnée, near Liège.—Reports, etc. 347
- 65 Mutual Commercial Co., Brussels.—Reports, etc. 347
- 66 Commercial & Industrial Mutual Co., Ghent.—Reports, etc. 347
- 67 Mutual Benefit Association, Xhendremael, near Liège.—Reports, etc. 347
- 68 Roelens, Désiré, Ghent.—Plan of a hot-house heating apparatus, with thermosyphon. 715
- 69 Smits, Constantine, Forest, near Brussels.—Model of a park, bird's-eye view, leveling, etc. 730

NETHERLANDS.

(North of Nave, Columns 60 to 65.)

Educational Books and Appliances, Statistics.

Educational Systems, Methods, and Libraries.

- 1 Tjeenk-Willink, H. A., Arnhem.—Earth globes with zinc balls. 300
- 2 The Book Trade, Amsterdam.—Books, school books, newspapers, and periodicals. 300
- 3 Deutgen, L., Groningen.—Paper blackboard. 300
- 4 Artisans' School, Rotterdam.—Drawings and designs. 300
- 5 Kolkow, F. J. von, Groningen.—Photographs on glass. 300
- 6 Workmen's Artisans' School, Amsterdam.—Drawings. 302
- 7 Verhaar, A. T., Utrecht.—Plaster casts of cattle that died of murrain in 1865. 302
- 8 Workmen's Society, Amsterdam.—Drawings by pupils. 302
- 9 Deaf & Dumb Institute, Groningen.—Reports, 1790-1875. 303
- 10 Blind Institute, Amsterdam.—Means of instruction for the blind, and articles made by pupils. 303
- 11 Serraris, P. A., jr., Geertruidenberg.—Writing apparatus for weak-sighted. 303
- 12 Mulder, L., Arnhem.—Periodicals. 306

Institutions and Organizations.

- 13 Dutch Scientific Society, Haarlem.—Treatise on natural science; archives of the Netherlands. 310
- 14 Teyler's Foundation, Haarlem.—Archives of the Teyler von der Halst Museum. 310
- 15 Society for the Promotion of Architecture, Amsterdam.—Works on architecture. 311
- 16 Dutch Association for the Encouragement of Industry, Haarlem.—Periodicals published by the Association. 311
- 18 Krelage, J. H., Amsterdam.—Pamphlets. 312
- 19 Dutch Horticultural & Botanical Association, Amsterdam.—Pamphlets. 312
- 20 Amersfoort, Mrs. H. M., Badhoeve.—Oratorio—"God's Ubiquity." 313
- 21 Gelder, G. M. van, Schaerbeek.—Piano forte method. 313
- 22 North Netherlands Musical & Historical Association, Amsterdam.—Publications. 313

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Scientific Instruments, Engineering, Benevolence, Machinery.

- 23 Roothaan, L., Amsterdam.—Music. 313

Scientific and Philosophical Instruments and Methods.

- 24 Harting-Bank, H. J., Utrecht.—Scientific instruments. 320
 25 Ministry of Finance, Hague.—Scientific instruments. 320
 26 Olland, H., Utrecht.—Meteorological instruments. 320
 27 Kerbel, G. H., Amsterdam.—Model of a steam engine. 320
 28 Wettersen, M. van, Haarlem.—Magnets. 320
 30 Muller, J. A., Amsterdam.—Water gauge. 321
 31 Betou, P. J. in de, Delft.—Instrument measuring tooth part of a millimetre. 321
 32 Hohwü, A. & T., Amsterdam.—Chronometers and astronomical clock work. 323
 33 Casseres, A. de, Amsterdam.—Chronometers and astronomical clocks. 323
 34 Cuypers, J. F., Hague.—Piano. 327

Engineering, Architecture, Maps, etc.

- 35 Ministry of the Interior.—Collection of public works of the Netherlands. 330
 36 Amsterdam Canal Co., Amsterdam.—Chart of the channel to the North Sea. 330
 37 Chambers of Commerce & Industry, Middleburg & Flushing.—Relief chart of harbor. 330
 38 Polytechnic School, Delft.—Models of lock gates. 330
 39 Morre, G. J., Delft.—Drawings. 330
 40 Simon, M., Flushing.—Copper model of lock gates. 330
 41 Stang, T., Hague.—Drawings of aqueduct. 330
 42 Dutch Railroad Co., Amsterdam.—Model of railroad bridge, and drawings. 332
 43 Nierstraas, N. H., Bois-le-Duc.—Plans and drawings. 332
 44 Zimmerman, G. P. H., Gouda.—Chart of Suriname river. 335

Physical, Social, and Moral Condition of Man.

- 45 Boer, F. N., Rotterdam.—Model of cheap boarding-house. 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- 46 Tjeenk Willink, W. E. J., Zwolle.—Drawings and statutes of Workmen's Association. 342
 47 Association for Improvement of Workmen's Buildings, Leuwarden.—Drawings and statutes. 342
 48 Association for Improvement of Workmen's Buildings, Hague.—Model of lodgings for workmen. 352
 50 Help Yourself Association, Leuwarden.—Statutes, plans, etc. 342
 51 Beneficial Association.—Models, drawings, writings, and photographs. 346
 52 Gori, M. W. C., Amsterdam.—Work on hospitals. 346

The "Red Cross."

- 53 Dutch Association for Assisting Sick and Wounded Soldiers in War Time.—Publications. 346

Machines and Tools for Working Metal, Wood, and Stone.

- 54 Haverkamp, Begemann E., Helmond.—Gutter bore machines. 551

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 55 Rennes, D. W. van, Utrecht.—Sewing machine. 531

Motors, Power Generators, etc.

- 56 Prakke, J. E. & H., Eibergen.—Leather straps; belting. 553
 57 Naef, G. & M., Lochem.—Leather straps; belting. 553

Hydraulic and Pneumatic Apparatus.

- 58 Rennes, D. W. van, Utrecht.—Machine for moving liquids by heat. 566
 59 Rietschoten, van, & Houwens, Rotterdam.—Model of engine for deepening rivers, etc. 563
 60 Bickers & Son, Rotterdam.—Fire extinguishers. 564
 61 Burger, H., Deventer.—Velocipedes. 571
 62 Heshuijsen, W. F., Sandpoort.—Railroad switch. 572
 63 Bens, A., Deventer.—Coffee and bean mills. 585

SWEDEN.

(North of Nave, Columns 6 to 11.)

Educational Publications and Appliances.

Educational Systems, Methods, and Libraries.

- 1 Abrahamson, Aug., Nääs, Floda.—Work by pupils of Nääs School of Home Industry for Boys and Girls. 300
- 2 Alard, A. F., Simtuna.—Musical staff table. 300
- 2^a Anderson, N. J., Stockholm.—Animals, plants, and minerals. 200
- 3 Bagge, G. B., Paris, France.—Geographical maps. 300
- 4 Berggren, A. N., Stockholm.—Method of penmanship. 300
- 4^a Brunell, J. E., Stockholm.—Penholders. 300
- 5 Cervin, C. G., Hesselby, Stockholm.—Model of a school-house. 300
- 6 Glömsta Manufactory, Huddinge.—Universal school form. 300
- 7 Royal Swedish Commission, Stockholm.
 - a A primary school house, with accessories of furniture, books, maps, and apparatus for instruction. (*In the Park, Building No. 107.*) 300
 - b Newspapers at present published in Sweden. 306
- 8 Erdman, Edward, Stockholm.—Geographical diagrams. 300
- 8^a Lewenhaupt, Count C. M., Clacatorp.—Toys, split shavings for mats, etc. 300
- 9 Lindblad, M. A., Stockholm.—Dried plants and cryptogamic types. 300
- 10 Winslow, A. P., Göteborg.—Herbarium for schools. 300
- 11 Nordlund, K., Gefle.—Apparatus for instruction in arithmetic. 300
- 11^a Technical Elementary Schools (collective exhibit).—Work of pupils. 300
- 11^b Hennings, R. T., Örebro.—Methods and means of instruction. 300
- 11^c Svensson, A., Stockholm.—Stuffed mammals, birds, and fishes. 300
- 11^d Wiman & Co., Stockholm.—School stoves. 300
- 11^e Zanders, H., Nowköping.—Drawings of gymnastic apparatus. 300
- 14 Fries, Th. M., Stockholm.—Spitzbergen herbarium. 301
- 15 Ramsay, Ebba, Mrs., Göteborg.—Drawings of Spitzbergen plants. 301
- 16 Windrufva, Sven, Stockholm.—Scandinavian herbarium. 301
- 16^a Vrana National High School, Vrana.—Samples of pupils' work. 301
- 17 Alnarp Agricultural Institute, Alnarp.—Maps and drawings of the farm buildings of the agricultural high school, photographs of its domestic animals, and a collection of plants grown on the farm of the school; works by pupils. 302
- 19 Royal War Department, Stockholm.—Works and drawings by pupils at the military school of Carlberg and military high school of Marieberg. 302
- 26 Staaf, P. O., Stockholm.—Agricultural and sylvicultural text books. 302
- 27 Wulff, H. A., Appierum, Kalmar.—Scheme of the agricultural school, drawings of farm buildings and implements, with specimens of soil and agricultural products. 302
- 28 Borg, O. E., Manilla, Stockholm.—Combined apparatus for speaking and hearing, for half deaf and dumb; symbolical vocabulary, used for the instruction of deaf and dumb. 303
- 29 Holm, F. J. W., Stockholm.—Model of the gymnastic hall at the institute for deaf and dumb of Manilla, in Stockholm. 304
- 30 Working Home for the Blind, Stockholm.—Basket work by blind pupils. 303
- 31 Public Institute for the Deaf, Dumb, & Blind, Stockholm.—Pupils' works. 303
- 32 Olsson, Magnus (blind, deaf, & dumb), Malung, Lima.—Willow furniture. 303
- 33 Klemmings Antiquarian Stock Co., Stockholm.—Books printed in Sweden in the 16th, 17th, and 18th centuries, with accounts of the earliest Swedish settlements in America. 306
- 33^a Brunius, A. W., Stockholm.—Books. 306
- 33^b Royal Statistical Central Bureau, Stockholm.—Statistical diagrams. 306
- 33^c Sidenbladh, Elis, Stockholm.—Statistical accounts of Sweden. 306
- 34 Central Printing Stock Co., Stockholm.—Typographical productions. 306
- 35 Gumaelius Arvid, Örebro.—The newspaper "Allehanda för Folket." 306
- 36 Key, Axel, Stockholm.—Anatomical treatise, periodical papers upon medicine and popular science. 306
- 38 Key, A. & Retzius G., Stockholm.—Studies in anatomy; periodical devoted to popular science. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-43.

Scientific Instruments, Engineering Designs.

Institutions and Organizations.

- 39 Hammer's Museum, Stockholm.—
Photographs, catalogues, etc. 312
- 40 Royal Economical Society, Lulea.
—Laplanders' costumes and utensils. 312
- 40a Schiwyer, G. R., Stockholm.—
Roman costumes. 312
- 40b Nordenskiöld, A. E., Stockholm.—
Meteorite from Greenland. 312

Scientific and Philosophical Instruments and Methods.

- 41 Royal Agricultural Society of the
Lan of Göteborg & Bohus.—Apparatus
for deep-sea soundings and marine evapo-
rimeters. 320
- 42 Gundberg, J. W. L., Stockholm.—
Copper vessels for preserving zoological
specimens; zoological sieves. 320
- 43 Leja, Joseph, Stockholm.—Ther-
mometer. 320
- 44 Lindahl, Jos., Lund.—Appara-
tus for deep-sea soundings and dredgings.
320
- 45 Ljungström, J. P., Stockholm.—Geo-
detic and surveying instruments. 320
- 47 Rose, J. L., Upsala.—Magnet and
needle-compasses for mines. 320
- 48 Theorell, A. G., & Sörensen, P.,
Stockholm.—Meteorograph. 320
- 49 Wiberg, Martin, Stockholm.
a "Bull-dog apparatus" for deep-sea sound-
ings. 320
b Logarithmetical tables, calculated and
printed by a counting machine; controll-
ing apparatus for railway trains. 321
- 50 Brehmer, E. F. A., Stockholm.—
Railway ticket registering apparatus, pa-
ging machine, etc. 321
- 54 Petterson, C. J., Carlshamn.—Cal-
culating machine. 321
- 55 Linderth, G. W., Stockholm.—
Clocks. 323
- 57 Unge, V. T., Stockholm.—Appara-
tus for measuring distances for military
purposes. 323

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- 58 Otter, Baron C. G. von, Stockholm.
—Signal lantern. 324
- 59 Kuntze & Co., Stockholm.—Air tele-
graphs. 326
- 61 Ahlberg & Ohlsson, Stockholm.—
Wind instrument of metal. 327
- 63 Lundholm, C. A. V., Stockholm.—
School organs and harmoniums. 327
- 64 Malmström, J. G., Göteborg.—Pia-
nos. 327

Engineering, Architecture, Maps, etc.

- 66 Norrman, C. G. V., Stockholm.—
Model of a pontoon bridge. 333
- 67 Bagge, G. P., Paris, France.—Geo-
graphical maps. 335
- 68 Erdmann, Edward, Stockholm.—
Geological maps and models. 335
- 69 Royal Swedish Staff General, Stock-
holm.—Topographical maps. 335
- 69a Nordenskiöld, A. E., Stockholm.—
Maps. 335
- 69b Roth, M., Stockholm.—Geographi-
cal maps. 335
- 69c Sahlbom, W., Stockholm.—Maps.
335
- 73 Economical Survey of Sweden,
Stockholm.—Economical and agronomical
maps. 335
- 74 Geological Survey of Sweden, Stock-
holm.—Geological maps, collections of
minerals, rocks, and soils. 335

Physical, Social, and Moral Condition of Man.

- 74a Zander, G., Stockholm.—Apparatus
for mechanical gymnastics. 340
- 75 Royal Swedish Commission, Stock-
holm.—Collection of current coins and
bank notes in Sweden. 344
- 75a Lindhen, H. A. W., Stockholm.—
Letter box. 345

Other educational exhibits from Sweden
are installed in the Swedish School House,
No. 107, and are enumerated on page 362.

NORWAY.

(North of Nave, Columns 4 to 7.)

Educational Books and Appliances, Scientific Instruments, Statistics.

Educational Systems, Methods, and Libraries.

- 1 Bergen Common School Board, Bergen.—Collection of materials for a free school. 300
- 2 Sandberg, Andreas, Christiania.—Models of handwriting. 300
- 3 Boeck, W., & Danielssen, D. C., Christiania and Bergen.—Treatises on skin diseases and elephantiasis. 360
- 4 Bentzen, B. M., Christiania.—Books and other specimens of printing. 306
- 5 Norwegian Association of Tourists, Christiania.—Books, maps, photographs, etc. 306
- 6 Jensen, H. J., Christiania.—“The Illustrated News,” and other illustrated works. 306

Scientific and Philosophical Instruments and Methods.

- 7 Wedel-Jarlsberg, Ferd., Commodore of the Norwegian Navy, Christiania.
 - a Patent control compasses, log machine. 320
 - b System of night signals. 326
- 8 Petersson, A. J., Christiania.—Calculating machine. 321
- 9 Mostue, Thv., & Co., Christiania.—Scales. 322
- 13 Aarestrup, J., Bergen.—Piano. 327

- 14 Brantseg, P., Christiania.—Pianos. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 16 The Director of the Public Roads of Norway, Christiania.—Maps, drawings, books. 330
- 18 Geographical Institute of Norway, Director of, Christiania.—Maps and topographical sections. 335
- 20 Collett, Robert, Assistant of the Zoological Museum, Christiania.—Zoo-geographical map of Norway, containing a complete list of the vertebrate animals of the country. 335
- 21 Schubeler, F. C., Professor of Botany at the University of Christiania.
 - a Botanico-geographical map of Norway. 335
 - b Plants of Norway. 704
- 21a Pettersen, Karl, Tromsø.—Geological map with descriptions. 335

Physical, Social, and Moral Condition of Man.

- 22 Statistical Bureau, Christiania.—Collection of official statistical publications relating to Norway; collection of cartographical representations. 345
- 23 Hagen, J., Christiania.—Leather and skins. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ITALY.

(North of Nave, Columns 1 to 5.)

Educational Books and Publications, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Angelini, Prof. Rodolfo, Rome.—Specimens of penmanship. 300
- 2 Maineri, Carlo, Milan.—Geographical map in relief. 300
- 3 Ben, Michelangiolo, Verona.—Mathematical maps. 300
- 4 Villa, Cav. Prof. Ignazio, Milan.—Geographical maps. 300
- 5 Palizzolo Gravina, Baron Vincent, Palermo.—Scientific books. 301
- 6 Filopanti, Dr. Prof. Quirico, Bologna.—Book on philosophy. 301
- 7 D'Italo, Enrico F. T., Milan.—Map of the world in the form of a globe, and objects for the study of geography and other sciences. 301
- 8 Giordano, Prof. Scipione, Turin.—Materia medica. 302
- 9 Perelli, Prof. Luigi, Milan.—Album, with specimens of stenography. 302
- 10 Vigano, Francesco, Milan.—Scientific books. 302
- 11 Claus, Cav. Prof. Niccolo, Milan.—Didactic and linguistic treatises. 302
- 12 Volante, Alessandro, Turin.—Pamphlet on mechanics. 302
- 13 Strazza, Giannina, widow Lucca, Milan.—Collection of music. 302
- 14 Tito di G., Ricordi, Milan.—Collection of music. 302
- 15 Bratti, Seiatilli, & Co., Florence.—Collection of music. 302
- 16 Crotta, Giannina, Milan.—Album of music. 302
- 17 C. Cam. Theophilus, Florence.—School books. 306
- 18 Brigola, Gaetano, Milan.—Scientific and miscellaneous books. 306
- 19 Maino, Antonio, Piacenza.—Books and maps. 306
- 20 Morandi, Feliesta, Milan.—Educational books. 306
- 21 Maltese, Dr. Felice, Vittorio, Sicily.—Book on philosophy. 306
- 22 Guida, Prof. Francesco, Naples.—Book on night signals. 306
- 23 Beccari, Gualberta Alaide, Bologna.—Newspaper, "La Donna." 306
- 24 Barra, Prof. Luigi, Ottajano, Naples.—Didactic book. 306

- 25 Gargiulo, Francesco, Naples.—Descriptive book. 306
- 26 Gravina, Domenico, Palermo.—Illustrated books. 306

Institutions and Organizations.

- 27 Director of the Anatomical & Pathological Museum of Florence.—Microscopic, normal, and pathological anatomical preparations. 311
- 28 Scaraviglia, Torquato, Gualdo Tadino, Umbria.—Album and pictures. 312

Scientific and Philosophical Instruments and Methods.

- 29 Sollima, Giacomo, Messina.—Mill scales. 322
- 29a Gasparini, Giacomo, Rome.—Meter for measuring grain. 322
- 30 Villa, Cav. Prof. Ignazio, Milan.—Universal clock. 323
- 32 Gennari, Cav. Dr. Enrico, Milan.—Optical instruments. 324
- 33 Ponti, Carlo, Venice.—Camasiale and megalithoscope (optical instruments). 324
- 34 Figatner, Enrico, Milan.—Electric batteries. 325
- 35 Gerosa, Edoardo & Emilio, Milan.—Telegraphic instrument. 326
- 36 De Lorenzi, Cav. G. Batta, Venice.—Violins, Stradivarius style. 327
- 37 Bedini, Giuseppe & Sons, Venice.—Harmonic strings. 327
- 38 Venturini, Luigi, Padua.—Harmonic strings. 327
- 39 Giuliano, Ditta, Naples.—Cylindrical piano. 327

Engineering, Architecture, Maps, etc.

- 40 Linari, Eng. Antonio, Rome.—Plan for a tunnel. 330

Physical, Social, and Moral Condition of Man.

- 41 Acquadro, Paolo, Turin.—Postal box. 345
- 42 Aurineta, Cav. Marco Aurelio, Naples.—New system of disinfection. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BRAZIL.

(North of Nave, Columns 58 to 61.)

Educational Books and Publications, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Municipal School Boards, Rio de Janeiro.—Text books, specimens of writing, drawing, and needle work. 300
- 2 Santa Candida School for Girls, Rio de Janeiro.—Specimens of penmanship. 300
- 3 Faculty of Medicine, Rio de Janeiro.—Text books and theses on medical and surgical subjects. 302
- 4 Naval School, Rio de Janeiro.—Educational books, specimens of drawings, models, etc., made by the cadets; maps, charts, etc. 302
- 5 Commercial Institute, Rio de Janeiro.—Specimens of drawing, writing, and book-keeping. 302
- 6 Academy of Fine Arts, Rio de Janeiro.—Specimens of drawing and pupils' work. 302
- 7 Public Instruction Board, Rio de Janeiro.—Educational books, specimens of writing and needle work. 302
- 8 Arts & Trades Lyceums, Rio de Janeiro.—Drawing and pupils' works. 302
- 9 Artistical Institute, Rio de Janeiro.—Chromo-lithographic engravings, printed books, maps and charts, specimens of book-binding. 302
- 10 Military Archives, Rio de Janeiro.—Maps and charts. 302
- 11 Faculty of Medicine, S. Salvador da Bahia.—Collection of theses on medical subjects. 302
- 12 Institute for Deaf & Dumb, Rio de Janeiro.—Educational books, specimens of drawing and dactylological painting; shoes made by pupils. 303
- 13 Imperial Institute for Blind Boys & Girls, Rio de Janeiro.—Apparatus used in teaching; books, geometrical figures, musical compositions; specimens of needle work. 303
- 14 Home Department, Rio de Janeiro.—Educational reports, laws, regulations, statistics, and catalogues. 304
- 15 Gaveao, Coronel J. M., & Paes de Barros, San Paulo.—Newspapers. 306
- 15a Laemmert, Edward & Henry, Rio de Janeiro.—Books. 306
- 16 Leuzinger & Sons.—Specimens of printing. 306
- 17 Moreira, Nicolau J., Rio de Janeiro.—"The National Industry Guide Review," treatise on colonization. 306
- 18 National Printing Office, Rio de Janeiro.—Various typographical objects. 306

- 19 Commission-General for the National Exhibitions, Rio de Janeiro.—Collection of Brazilian newspapers. 306
- 20 Silva, Pessanha da, Rio de Janeiro.—Brazilian medical annals. 306
- 22 Villeneuve, J., & Co., Rio de Janeiro.—"Journal of Commerce." 306
- 23 Roxo, Monteiro, & Lemos, Rio de Janeiro.—"Direito Mercantil." 306
- 24 Possolo, E. Germack, Rio de Janeiro.—Books. 306
- 25 Alves, S. José, Rio de Janeiro.—Books. 306
- 26 d'Azevedo, J. G., Rio de Janeiro.—Books. 306

Institutions and Organizations.

- 27 Leuzinger & Sons, Rio de Janeiro.—Collection of articles for museums. 312
- 28 Brant, J. Ferreira d'A., Minas Geraes.—Collection of insects. 312
- 29 Napoleao, Narciso & Arthur, Rio de Janeiro.—Music printing and engraving. 313
- 30 Santos, & Quintino dos, Rio de Janeiro.—Musical compositions. 313
- 31 Silva, Francisco Manuel da, Rio de Janeiro.—Musical compositions. 313
- 32 d'Araujo, Gomes, Rio de Janeiro.—Musical compositions. 313
- 33 Lago, Emilio do, Rio de Janeiro.—Musical compositions. 313
- 34 Goyano, J. J., Rio de Janeiro.—Musical compositions. 313
- 35 Silva Callado, J. A. da, Rio de Janeiro.—Musical compositions. 313
- 36 Amat, José, Rio de Janeiro.—Musical compositions. 313
- 37 Menezes, Cardoso de, Rio de Janeiro.—Musical compositions. 313
- 38 Campos, A., Rio de Janeiro.—Musical compositions. 313
- 39 Ribas, Edward, Rio de Janeiro.—Musical compositions. 313

Scientific and Philosophical Instruments and Methods.

- 40 Army Arsenal of Rio Grande do Sul.—Metal meridian. 320
- 41 Saldanha, Luiz de, Brazilian Navy.—Nautical repeating compass. 320
- 41a Pinheiro, A. Pereira, Brazilian Navy.—Sandagraph or automatic deep-sea sounding apparatus. 320
- 42 Garrido.—Apothecaries' scale. 320

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Musical Instruments, Engineering Designs, Coins.

- 43 General Commission from Rio de Janeiro.—Piano; large guitar (viola), and small guitars (machetes). 327
- 44 Lins, Lamenha, Sancta Candida.—Guitars. 327
- 45 Couceiro, J. do Santos, Rio de Janeiro.—Violin and bow. 327
- 46 General Commission for Brazil.—Piano. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 47 The Board of Directors of the "Pedro II. Dock Works" Co.—Drawings showing the "Pedro II. Dock Works" at Rio de Janeiro, and samples of the wood employed in the works, submarine constructions, wharves, and warehouses. 330
- 48 Rebouças, André & Castro, Borja, Rio de Janeiro.—Photographs of custom-house dock works, plans containing details of work, etc. 330
- 49 Public Works Office, Rio de Janeiro.—Project to improve the harbors of Brazil, by Sir John Hawkshaw. 330
- 50 Liais, E., Rio de Janeiro.—Surveys and profiles of the rivers Das Velhas and San Francisco, with reports. 330
- 51 Hydrographic Department, Rio de Janeiro.
a Surveys of the Amazonas river for 2240 miles. 330
b Charts of the coast and harbors of Brazil. 335
- 52 Speir, W., Province of San Paulo.—Drawings of the railroad from Santos to Jundiáhy, San Paulo. 332
- 53 Fox, Engineer, Province of San Paulo.—Plans and drawings. 332
- 54 Public Works Office, Rio de Janeiro.
a Drawings, showing the bridges of the Pedro II. railway. 332

- b Charts and topographical maps of the various provinces, etc. 335
- 55 Penna, Ferreira, S. Pedro du Sul.—Plans, estimates, and reports on the projected railway from Porto Alegre to Uruguayana. 332
- 56 Loyd, Engineer, Rio de Janeiro.—Project of a railway to the Province of Matto Grasso, with plans, estimates, etc. 332
- 57 Bulhoes, Engineer, Rio de Janeiro.—Railway plans, illustrations, estimates, etc. 332
- 58 Coutinho, Silva, Rio de Janeiro.—Project to lengthen the railway line to the Province of Pernambuco, with plans, etc. 332
- 59 Garceix, Prof.—Geological map of the province of Minas-Geraes. 335
- 60 Commission-General for the National Exhibitions.—Maps of the Province of San Paulo; elements for the organization of a physical chart of Brazil, by Homen de Mello. 335
- 61 Mendes, C., Rio de Janeiro.—Atlas of the Brazilian empire. 335
- 62 Rohan, General de Beaurepaire, Rio de Janeiro.—General chart of the Brazilian empire. 335

Physical, Social, and Moral Condition of Man.

- 63 National Mint, Rio de Janeiro.—Collection of medals stamped by the mint; collection of Brazilian coins. 344
- 64 Suplicy, J. F., Province of Paraná.—Collection of medals obtained by galvanoplastic method, galvanoplastic pile. 344

(For Naval Engineering, see Machinery Hall.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ARGENTINE REPUBLIC.

(*South of Nave, Columns 2 to 5.*)

Books, Maps, Statistics.

Educational Systems, Methods, and Libraries.

- 1 Gonzalez, Meliton, Province of Entre-Rios.—Map of the province. 300
- 2 Chapeaurouge, C. de, Province of Santa Fé.—Map of the province. 300
- 3 Grousae, Paul, Province of Tucumen.—Map of the province. 300
- 4 Monguillot, E., Province of Buenos Ayres.—Sheet music. 302
- 5 Scapatura, A., Province of Buenos Ayres.—Sheet music. 302
- 6 Yorge, Faustino, Province of Buenos Ayres.—Statistical register of the province. 305
- 7 Rosseli, Peter, Province of Buenos Ayres.—Periodical—"Correo Argentino." 306
- 8 Bridma, Martin, Province of Buenos Ayres.—Books of typographical samples. 306

- 9 Costa, Angel F., Province of Buenos Ayres.—Work on finance. 306
- 10 Navarro, Samuel, Province of Buenos Ayres.—Work on immigration. 306
- 11 Navarro, Mardoguelo, Province of Buenos Ayres.—Statistics of the epidemic of 1871. 306
- 12 Zuiny, Antonio, Province of Buenos Ayres.—Books. 306
- 13 Espineyro, Mariano T., Province of Buenos Ayres.—"The Judicial Periodical." 306
- 14 Chucco, Manuel C., Province of Buenos Ayres.—Books. 306
- 15 Ledesmo, Justiniano A., Province of Buenos Ayres.—Books. 306
- 16 Minister of the Interior.—"Memoirs of the Governor of Chaco." 306
- 17 Gelderen, A. van, Province of Buenos Ayres.—Encyclopedia. 306
- 18 Argentine Rural Society.—Annals of the Society; official bulletin of the National Exhibition of Córdoba. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

[*The exhibit of Spain in the Department of Education and Science is installed in the Spanish Pavilion, and catalogued in Part III., pages 132 to 141.*]

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Publications, Statistics, Scientific Instruments, Engineering Designs.

Educational Systems, Methods, and Libraries.

- 1 Brito Aranha, Pedro W. de, Lisbon.—Elementary books. 300
- 2 Perry, Gerardo A., Lisbon.—Atlas with statistics of Portugal and colonies. 305
- 3 Association for the Encouragement of Manufactures, Lisbon.—A frame with diplomas, statutes and elementary books. 306
- 4 Direction of the Public Works of Mondego, Figueira.—"Memoir on the River Mondego;" "Catalogue of Plants in the Forest of Cheupal." 306
- 5 Ferraz, José L. M., Ega.—Work on pharmacy. 306
- 6 Infante Dom Luiz Observatory, Lisbon.—Scientific publications. 306
- 7 Magalhaes & Moniz, Oporto.—Text books and other works. 306
- 8 Mengo, Francisco da Silva, Oporto.—Books. 306
- 9 Nepomuceno, Manuel, Oporto.—Books. 306
- 10 Silva, Joaquim Possidonio Narciso da, Lisbon.—Memoirs on archæological and architectural subjects. 306
- 11 National Printing Office, Lisbon.—Printed works. 306
- 12 Portuguese Civil Engineers' Society, Lisbon.—Copies of the "Revista d'Obras Publicas e minas." 306
- 13 Sarmiento, Anselmo Evaristo de Moraes, Oporto.—Copies of the "Actualidade" journal. 306
- 14 Department of Finance, Lisbon.—Commercial statistics of Portugal. 306
- 14a Queiroz, G. J. de, Lisbon.—Commercial statistics of Portugal, graphically arranged. 306
- 15 Prostes, H., Lisbon.—Bound copies of Portuguese newspapers and journals. 306
- 16 Costa, Godolphim, Lisbon.—Literary work. 306
- 17 Chardron, Ernest, Oporto.—Dictionary of the Portuguese language. 306
- 17a Lallement Bros., Lisbon.—Typographical works, printing on satin. 306

Institutions and Organizations.

- 18 Industrial Institute of Oporto.—History, organization, and course of studies. 310
- Scientific and Philosophical Instruments and Methods.**

- 19 Board of Public Forests, Lisbon.—Maps. 320

20 Industrial Institute of Lisbon.

- a Levels and planimeter. 320
- b Pantometers. 322
- c Pendulum. 323
- d Topo-photographic camera. 324

21 Infante Dom Luiz Observatory, Lisbon.—Meteorological and magnetic registers. 320**22 Bastos, Antonio Pinto, Lisbon.—Hydrometer.** 320**23 Continho, D. Martinho da Franca, Lisbon.—Goniometric, goniographic and telemetric compass, pyramidal compass.** 321**24 Pereira, Verissimo Alves.—Hydrometer.** 321**27 Oliveira, Justino Gomes de, Villa Nova de Gaia.—Gold watches.** 321**29 Motta, José Maria, Lisbon.—Electric bells.** 326**30 Cabral, Affonso do Valle Coelho, Oporto.—Violin.** 327**31 Araujo, Joaquim G., Braga.—Stringed instruments, guitars.** 327**32 Ribeiro, Domingos Candido d'Almeida, Oporto.—Violin.** 327**33 Pereira, Custodio Cardozo, Oporto.—Musical instruments.** 327**34 Sanhudo, José Ferreira, Oporto.—Stringed instruments.** 327**Engineering, Architecture, Maps, etc.****35 Silva, Silverio Augusto Pereira da, Aveiro.—Bridge model.** 330**36 Administrative Board of Works for the artificial port of Ponta Delgada.—Plan of artificial port at Ponta Delgada, with description and views of same.** 330**37 Lecrenier, Nicolas Joseph, Lisbon.—Model of rail.** 332**38 Bayao, F. A. P., Lisbon.—Plan of a portable railway.** 332**39 Perry, Gerardo A., Lisbon.—Geographical, physical, and orographical maps of Portugal.** 334**40 Industrial Institute of Oporto, Oporto.—Topographical charts of the river Douro, and of the wine producing district.** 335**41 Geodetical Department, Lisbon.—Geographic, geological, trigonometrical, and hydrographic maps and charts, and other graphic representations, books, atlases, matrices, etc.** 335**42 Infante Dom Luiz Observatory, Lisbon.—Marine charts, etc.** 335*For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.*

Art, Machinery.

Physical, Social, and Moral Condition of Man.

- 42^a General Direction of the Mint & Stamped Paper, Lisbon.—Coins and medals. 344

Sculpture.

- 43 Rio Junior, J. do, Oporto.—Statuettes. 400
 44 Campolini, Miguel, Oporto.—Clay statuettes representing the costumes worn in the vicinity of Oporto. 400
 45 Almeida, José J. d'A., Lisbon.—Stone figure. 400
 46 Silva & Santos, Oporto.—Clay statuettes, representing national costumes. 400
 47 National Printing Office, Lisbon.—Medals and plates. 402
 48 Industrial Institute of Oporto, Oporto.—Specimens of Guillocher work in wood. 405
 49 Oporto Commercial Association, Oporto.—Wood carvings. 405

Engraving and Lithography.

- 51 National Printing Office, Lisbon.—
 a Ornamental engravings, plates, etc. 421
 b Lithographs. 423
 52 General Direction of the Mint and Stamped Paper, Lisbon.
 a Copies from engravings. 421
 b Copies from lithographs. 423

- 52^a Oporto Commercial Association, Oporto.—Lithography. 423

- 53 Reis & Monteiro, Oporto.—Lithographs. 423

- 54 Mendes, Malaquias José, Lisbon.—Impressions from seals. 423

Photography.

- 55 Infante Dom Luis Observatory, Lisbon.—Photographs of the sun. 430

- 56 General Direction of the Mint and Stamped Paper, Lisbon.—Copies from photographs. 430

- 57 Department of Mines, Lisbon.—Photographs. 430

- 58 Superintendency of Live Stock of the District of Beja.—Photographs showing races of live stock. 430

- 58^a Industrial Institute of Oporto, Oporto.—Guillocher turning lathe. 510

- 59 Guerra, Joaquim Baptista da Silva, Oporto.—Jacquard weaving machine. 520

- 60 National Printing Office, Lisbon.—Type. 542

- 61 Continho, Antonio R. da S., Ponta Delgada.—Model of a propeller. 554

- 62 Cruz, Luis F. de S., Oporto.—Hydraulic machine. 560

- 63 Castro, Joao V. az Pacheco, Ponta Delgada.—Stone hand mill. 585

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TURKEY.

(South of Nave, Columns 14 to 17.)

Publications, Scientific Instruments, Art.

Educational Systems, Methods, and Libraries.

- 1 **School of Medicine, Constantinople.**—Books, treatises, etc., on medicine and natural sciences. 306
 2 **Hersmainiska de Slupno, Madame, Constantinople.**—Turkish sheet music, bound and unbound. 306

Scientific and Philosophical Instruments and Methods.

- 3 **Kiamil Effendi, Koniah, Koniah.**—Wooden sextant. 320
 4 **Moustapha, Constantinople.**—Scale and weights. 322
 5 **Sulleiman, Constantinople.**—Steel-yards. 322
 6 **Boch Kirkor, Aleppo.**—Flute. 327
 7 **Casmani, David, Damascus.**—Musical instrument. 327
 8 **Dimitri, Yanina, Yanina.**—Shepherd's flute, etc. 327
 9 **Giorgi, Antaki, Aleppo.**—Flute. 327
 10 **Giorgi, Kara-Keai, Aleppo.**—Mandoline, drum, and kettle drum. 327
 11 **Giorki Rizzo, Yanina, Yanina.**—Guitar. 327
 12 **Moustapha Agha, Constantinople.**—Flutes and haut-boys. 327
 13 **Manoli (shepherd), Lachite, Crete.**—Bag pipe. 327
 14 **Mehemed Nablus, Damascus.**—Kettle drum. 327
 15 **Théophani, Nicoforaki, Canea, Crete.**—Violin. 327
 16 **Théophani, Nicolaki, Canea, Crete.**—Shepherd's flute. 327

Physical, Social, and Moral Condition of Man.

- 18 **Constantinople, Government of.**—Turkish gold, silver, and metal coins, commemorative silver medals. 344

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- 19 **Terzibation, Hadji Agop, Constantinople.**—Collection of Greek, Roman, Byzantine, and Arabian coins, in gold, silver, copper, lead, and stone. 344

Paintings.

- 20 **Ludovic & Vallauri, Constantinople.**—Portrait of the late Sultan of Turkey. 410
 21 **Ottoman Commission.**—Oil paintings. 410
 a Scutari.
 b The Bosphorus.
 c Turkish lady.
 d Landscape.

Engraving and Lithography.

- 22 **Mazloum Aghiah, Constantinople.**—Design. 420

Photography.

- 23 **Granda, Canea, Crete.**—Album containing views. 430
 24 **Mikahilidès, Adrianople.**—Photographic view of Adrianople, the Imperial palace, mosque of Selim, etc. 430
 25 **Sebah, Constantinople.**—Photographic views of Athens and the interior of the mosque of St. Sophia. 430

Industrial and Architectural Designs.

- 26 **Constantinople, Government of.**—Ottoman architecture. 441

Ceramic Decorations, Mosaics, etc.

- 27 **Vaisse, Martin, & Co., Constantinople.**—Brick and tile. 451
 28 **Ana Sebat, Jerusalem.**—Tomb and sepulchre of Christ, in mother-of-pearl. 454
 29 **Riza Effendi, Constantinople.**—Imitation fruits in wax, etc. 453

RUSSIA.

(South of Nave, Columns 19 to 23.)

Educational Publications and Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Strookoff, St. Petersburg.
 - a School furniture and other educational appliances. 300
 - b Apparatus for mathematical studies. 301
- 1a Laus, Theodore, Revel.—Practical apparatus for setting arithmetical problems. 300
- 3 Strembitski's Laboratory, St. Petersburg.—Appliances illustrating different branches of natural philosophy for school and scientific museums. 301
- 4 Shinhelm, St. Petersburg.—Ethnographical and zoological models. 301
- 5 Sihieldknecht, St. Petersburg.—Apparatus for mathematical studies. 301
- 6 St. Petersburg Workshop for Educational Appliances and Games.—Articles adapted for school instruction, gymnastics, and games. 301
- 7 Reinbot, St. Petersburg.—Technical collections for schools. 301
- 8 Pik, Jacob, Warsaw.
 - a Working model of Bramah's hydrostatic press; model of a steam engine. 301
 - b Mineralogical collection.
- 9 Pedagogic Museum, St. Petersburg.—Collection of educational appliances. 301
- 10 Lapshenko & Mickhaeloff, St. Petersburg.—Collection of educational appliances and apparatus. 301
- 11 Kressten, St. Petersburg.—Apparatus for physical experiments. 301
- 13 Kowalski, St. Petersburg.—Appliances for the study of geography. 301
- 14 Kochowski, St. Petersburg.—Appliances illustrating geography. 301
- 15 Givotovski, St. Petersburg.—Apparatus, illustrating botany. 301
- 16 Fenoult & Co., St. Petersburg.—Text books and appliances for the study of different branches of knowledge. 301
- 17 Female Workshop of Educational Appliances, St. Petersburg.—Ethnographical models. 301
- 18 Brucher & Bauler, St. Petersburg.—Apparatus for physical experiments. 301
- 19 Practical Technological Institute, St. Petersburg.—Systematical collection for practical instruction in working metal. 302
- 20 Karłowicz, John, Warsaw.—New method of writing music. 302
- 21 Strogonoff Central School of Technical Drawing, Moscow.—General and ornamental drawings executed by the pupils; text books. 302
- 22 Krasinski, Dr. Hubert Novo, Mirgarod, Government of Kherson.—Microscopic preparations of human tissues in sound and pathological state. 302
- 23 Kotomin, Anthony, St. Petersburg.—Models for teaching comparative anatomy. 302
- 24 Imperial Technical School, Moscow.—Collection of furniture, apparatus, instruments, and models for technical instruction, specimens of pupils' work. 302
- 24a Grigorieff, St. Petersburg.—Apparatus for teaching the blind. 303
- 25 Helsingfors Stenographic Society, Finland.—Treatises and periodicals on stenography. 306
- 26 Krassoski, Alexander, Viatka.—Books. 306
- 27 Khitroff, Jrbit, Government of Perm.—Typographical work. 306
- 28 Wolf, Morice, St. Petersburg.—Text books, illustrated books, and other editions. 306
- 29 Unger, Gracian, Warsaw.—"Tygodnic ilustrowang" (illustrated periodical). 306
- 31 Marks, A. F., St. Petersburg.—"Nieva" (illustrated periodical). 306
- 31a Jurgenson, Peter, Moscow.—Music, exhibitor's edition. 306

Scientific and Philosophical Instruments and Methods.

- 33 Pik, Jacob, Warsaw.
 - a Double-barreled air-pump, Cagniard Latour's sinene with clockwork. 320
 - b Pyrhometer for measuring the linear expansion of various metals: Wallaston's camera-lucida spectroscopie. 324
- 34 Milewski, Joseph, St. Petersburg.—Telemeter instrument for measuring distances without chains or rods. 320
- 35 Imperial Technical School, Moscow.—Apparatus for drawing parabolic lines, and scale for finding the radius of a given arc. 320
- 36 Jagn, Nicolas, St. Petersburg.—Pulse-pump apparatus adapted for accelerating the filtering process. 320
- 37 Zevecki, C., St. Petersburg.—Self-registering nautical instruments. 320
- 38 Ezerski, E., St. Petersburg.—Counting apparatus for multiplication and division. 321
- 39 Diakoff, George, St. Petersburg.—Arithmometer, new system. 321
- 40 Alexandroff.—Apparatus for verifying cartridges, exhibitor's system. 321

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific Instruments, Engineering Designs, Maps.

- 41 Gootkooski, St. Petersburg.—Mechanical scales for verifying cartridges, exhibitor's system (photographs). 322
 - 42 Chief Intendancy of War, St. Petersburg.—Method of testing flour, also apparatus for testing the quality and strength of cloth. 322
 - 44 Palenoff, Constantine, Niji Tagil, Government of Perm.—Photometer, specially adapted for thermatics. 324
 - 45 Martisheff, Wladimir, St. Petersburg.—Optical indicator. 324
 - 46 Workshop of the Direction of the Baltic Lighthouses, Revel.—Lamps for lighthouses. 324
 - 47 Workshop for Making and Repairing Nautical Instruments, Yermolin, St. Petersburg.—Fresnel's lamp for lighthouses; slides for the magic lantern. 324
 - 48 Tabulevitch, T. R. N., St. Petersburg.—Naval signal light. 324
 - 49 Starkoff, Eugene, St. Petersburg.—Albumen paper specially prepared for photography. 324
 - 50 Koolikoff, Nicolas, Moscow.—Russian national musical instruments. 327
 - 56 Military Engineering Department, St. Petersburg.—Armor plate, plans, and special editions. 333
 - 57 Antonoff, Philip, St. Petersburg.—Plan in relief of Sebastopol during siege. 335
 - 58 Hydrographical Bureau, St. Petersburg.—Marine charts and coast maps. 335
 - 59 Department of Agricultural & Rural Industry, Statistical Bureau of St. Petersburg.—Statistical maps, showing the soil, climate, produce of crops, and cattle breeding in Russia. 335
 - 60 Vassilieff, John, Pskoff.—Maps of Russia. 335
 - 61 Topographical Bureau of the General Staff, St. Petersburg.—Maps and charts; photo, helio, lithographic works, and electrotype plates. 335
 - 62 Timiriazeff, Demetrius, St. Petersburg.—Statistical atlas. 335
 - 63 Municipality of the City of St. Petersburg.—Orographic plan of St. Petersburg. 335
 - 64 Kittarg, Modest, St. Petersburg.—Statistical charts. 335
 - 65 Flyin, Alexis, St. Petersburg.—Maps, charts, etc. 335
- Engineering, Architecture, Maps, etc.**
- 51 Municipality of the City of St. Petersburg.—Plans of various town institutions and buildings. 330
 - 52 Municipality of the City of Warsaw.—Cast iron plate for street pavement. 330
 - 53 Paszepny, Charles, Warsaw.—Album containing plans of breweries and distilleries. 331
 - 54 Dinaburg Arsenal.—Sapping instruments, and model of pontoon bridge. 333
 - 55 Blach, John, Warsaw.—Statistical essay on the construction, management, and revenue of Russia; railways and graphic chart. 333
- Physical, Social, and Moral Condition of Man.**
- 66 Anikeyeff, James, Moscow.—Swimming apparatus. 340
 - 67 Kittarg, Modest, Garetooka, Government and District of Moscow.—Disinfecting fluid and powder for dwellings and stables. 342
 - 68 Menard, St. Petersburg.—Appliances for stopping up the chinks of window-frames in cold climates. 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ANNEX TO MAIN BUILDING.

No. 106.—ANNEX TO MAIN BUILDING. (CARRIAGE ANNEX.)

Architect, H. J. SCHWARZMANN.

(SIZE, 346 x 231.)

This structure is built of corrugated iron, wood, and glass; a one-story building, with sky-lights, situated on Avenue of the Republic, immediately north of the Main Building, and east of the Department of Public Comfort.

Chemical Manufactures, Furniture.

Chemical Manufactures.

- 1 Rogers, Duck & Lewis, Fort Wayne, Ind.—Miller's elastic surfacing liquid, applied to the bare wood of carriage and car bodies. 202
- 1a Rosenburg, D. & Son, New York, N. Y.—Varnishes. 202

Furniture, etc.

- 1b Mason, John L., Camden, N. J.
 - a Soap cup. 213
 - b Fruit jars and nursing bottles. 215
- 2 Stewart, S. N., Philadelphia, Pa.
 - a Models of relief chair and mattress. 217
 - b Movable partition and balcony; stair rail. 227
- 2a Lawrence, Lewis P., Philadelphia, Pa.—Swing and nursery chair. 217
- 3 Pennsylvania Working Home for Blind Men, Philadelphia, Pa.—Mattresses. 217
- 3a Covert, Lewis B., New York, N. Y.—Extension step-ladder. 217
- 4 Wunderlich, John N., Philadelphia, Pa.—Adjustable table. 217
- 4a Wagner Drug Milling Co., Philadelphia, Pa.—Refrigerators. 217
- 4b Williams & Co., Nashua, N. H.
 - a Soapstone slabs, table tops, and shelves. 217
 - b Soapstone stoves, register frames, and foot warmers. 222
 - c Soapstone wash trays, sinks, griddles, etc. 224
- 5 Clark, I. D. & Co., Gloversville, N. Y.—Cradle, and baby's walking-table. 221
- 6 Thomas, Roberts, Stevenson, & Co., Philadelphia, Pa.—Coal and wood stoves, hot-air furnaces, cooking ranges. 222
- 6a Simonds' Manufacturing Co., New York, N. Y.—Furnace, ranges, registers, and apparatus for ventilating buildings. 222

- 7 Burnham, Chas., & Co., Philadelphia, Pa.
 - a Gas cooking and heating stoves. 222
 - b Weather strips. 227
- 7a Bissell & Co., Pittsburg, Pa.—Grates, ranges, and car heaters. 222
- 8 Cooley, J. G., Hyde Park, Mass.—Lamp cooking apparatus. 222
- 8a United States Soapstone Furnace Co., Boston, Mass.—Soapstone furnace. 222
- 9 Stuart, D. W., Philadelphia, Pa.—Stove. 222
- 10 Orr, Painter, & Co., Reading, Pa.—Ranges, heaters, stoves. 222
- 10a Westland, C. O., Troy, N. Y.—Parlor stove. 222
- 11 Spear, James, & Co., Philadelphia, Pa.—Stoves, heaters, ranges, low-down grates, etc. 222
- 11a Thatcher Heating Co., New York, N. Y.—Furnaces. 222
- 12 Reid & Cooper, Elmira, N. Y.—Cooking stove. Direct draft six-hole cooking stoves and ranges, constructed by new application of principles; warranted to give satisfaction in every instance. 222
- 12a Sheeler, Buckwalter, & Co., Royer's Ford, Pa.
 - a Parlor and cooking stoves, ranges, and heaters. 222
 - c Cherry seeder. 224
- 13 Swett, Quimby, & Perry, Troy, N. Y.—Parlor stove, cooking and heating ranges. 222
- 13a Richardson, Boynton & Co., New York, N. Y.—Furnaces, ranges, heaters, stoves, etc. 222
- 14 Thomas & Joerns, New York, N. Y.—Base-feeding parlor coal vases, movable base-feeding coal bins. 222
- 14a Rand, A. W., Philadelphia, Pa.—Heater and range. 222

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Heaters, Ranges, Household Utensils.

- 15 McDougall, S. T., New York, N. Y.—Gas stoves and cabinets, petroleum stoves, cooking apparatus, oil lamps and fixtures, gas burners. 222
- 15a Open Stove Ventilating Co., New York, N. Y.—Open grate, close stove, and warm air furnace combined. 222
- 16 Monitor Oil Stove Co., Cleveland, O.—Cook stove. 222
- 17 Henis, Chas. F., Philadelphia, Pa.—Adjustable elbow for stovepipes. 222
- 18 Leibrandt & McDowell Stove Co., Philadelphia, Pa.—Stoves, etc. 222
- 18a Florence Sewing Machine Co., Florence, Mass.—Stoves. 222
- 19 Bentley, Jeffrey O., Philadelphia, Pa.—Hollow metallic steam-radiating base-board for heating rooms. 222
- 19a Langstrath, Thomas, Philadelphia, Pa.—Furnaces. 222
- 20 Dripps, Isaac, Philadelphia, Pa.—Safety ventilating heaters for railroad passenger cars. 222
- 21 Stuart, Peterson & Co., Philadelphia, Pa.—Stoves, hollow ware, and hardware goods. 222
- 22 Perkins & McFarland, Philadelphia, Pa.—Heaters and ranges. 222
- 23 Reynolds, J., & Son, Philadelphia, Pa.—Wood and coal furnaces, cooking range. 222
- 25 Morris & Haines, Philadelphia, Pa.—Heaters and range. 222
- 27 Hayes, Coulter & Co., Philadelphia, Pa.—Hot-air furnace, cooking range. 222
- 28 Grossius, John, Cincinnati, O.—Stove for school-houses, etc. 222
- 29 Barry & Lane, New York, N. Y.—Oven range and cast-iron setting. 222
- 30 Creamer, Wm. G., & Co., New York, N. Y.—Railway car ventilators, lamps, and car trimmings; house registers. 222
- 31 Nixon, George, & Son, Philadelphia, Pa.—Hotel range and boiler. 222
- 32 Bartlett, Job, & Sons, Philadelphia, Pa.—Furnaces, kitcheners, low grates. 222
- 33 Gale, D. A. T., Syracuse, N. Y.—Metallic bed bottom. 222
- 33a Weare Bros. & Co., Cincinnati, O.—Stove. 222
- 34 Barstow Stove Co., Providence, R. I., New York, N. Y., and Boston, Mass.—Stoves, ranges, furnaces, heaters, hollow ware, etc. Awarded Grand Medal of Merit at Vienna Exposition, 1873. 222
- 35 Hopkin, William, Jr., Philadelphia, Pa.—Furnace, range, and boilers. 222
- 37 Sheppard, Isaac A., & Co., Philadelphia, Pa.—Stoves, ranges, furnaces, hollow ware. 222
- 39 Tuttle & Bailey Manufacturing Co., New York, N. Y.—Hot-air registers, ventilators, ornamental screens for steam coils, etc. 222
- 40 Resor, Wm., & Co., Cincinnati, O.—Cooking stoves. 222
- 41 Caldwell & Mather, Philadelphia, Pa.—Cooking ranges and heating furnace. 222
- 42 J. L. Mott Iron Works, New York, N. Y.—Ranges, heaters, stoves, and grates. 222
- 43 McCoy & Roberts, Philadelphia, Pa.—Portable hot-air furnaces. 222
- 44 Barker, Geo. R., Philadelphia, Pa.—Combined heating and ventilating flue apparatus and double register. 222
- 45 Gold's Heater Co., 47 Cliff street, New York, N. Y.—Heaters. Constructed on the principle of extensive radiating surfaces, which has the effect of reducing the temperature, so as not to injure the quality of the air warmed. Produces same result as heat made by steam or hot water—a pure and healthful atmosphere. 222
- 46 Williams, Charles, & Co., Philadelphia, Pa.—Heaters, ranges, ventilators. 222
- 47 Rathbone, Sard & Co., Albany, N. Y.—Stoves and ranges for coal or wood. 222
- 48 Abendroth Bros., New York, N. Y.—Stoves, ranges, plumbers' ironware, vases, fountains, hot-house and stable fittings. 222
- 50 Giles, H. G., & Son, Troy, N. Y.—Portable furnace and range, and parlor stoves. 222
- 51 Myers, George, Philadelphia, Pa.—Bath boilers and tanks. 222
- 52 Whitehead, Thomas J., South Paris, Me.—Combined cooking stove and hot-air furnace. 222
- 53 Chatain, Henry, Washington, D. C.—Baking oven. Patent for sale. One in operation at 713 Eleventh street, Washington, D. C. 222
- 54 National Stove Works, New York, N. Y.—Heaters and ranges. 222
- 55 Doyle, William, Albany, N. Y.—Stoves, furnaces, and ranges. 222
- 56 Comstock, Castle, & Co., Quincy, Ill.—Heating stove. 222
- 57 Keystone Hardware Manufacturing Co., Reading, Pa.
a Hot-air registers, and ventilators. 222
b Hardware, apple parers, fruit presses. 224
- 58 Detroit Stove Works, Detroit, Mich.—Cooking and coal and wood heating stoves. Manufacturers of the celebrated Crown Jewel Base Burner, Tefft's Wood Cook, and a full assortment of wood and coal cooking and heating stoves. 222
- 59 Johnson, Black, & Co., Erie, Pa.—Stoves, furnaces, and heaters. 222
- 60 Mitchell, Stevenson, & Co., Pittsburg, Pa.—Stoves. 222
- 61 Hessenbruch, Theophilus, Philadelphia, Pa.—Combination damper and ventilator. 222
- 62 Michigan Stove Co., Detroit, Mich.—Stoves, hollow ware, stove furniture, etc. Manufacturers of cooking, parlor, and heating stoves, from a mixture of Lake Superior and other first-class brands of iron. Our motto: "Everything made first-class, and to sell at reasonable prices." 222
- 63 Lesley, Alex. M., New York, N. Y.
a Gothic furnace. 222
b Refrigerators and coolers. 224
- 64 March, Brownback & Co., Limerick Station P. O., Pa.—Heaters, ranges, and hollow ware. 222

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Heaters, Ranges, Household Utensils.

- 65 Boyd, David, New York, N. Y.—
Flue radiator, flue and diaphragm attachment. 222
- 66 New Haven Steam-Heating Co.,
New Haven, Conn.—Radiators and
screens for low-pressure steam-heating. 222
- 67 Miller, William, Cincinnati, O.—
Ranges. 222
- 68 Corey, Jas. H., New York, N. Y.—
Culinary boiler and steam and exhaust
valve combined. 222
- 69 Duparquet, L. F., & Huot, New
York, N. Y.
a Ranges, broilers. 222
b Coffee and tea urns, cooking utensils. 224
- 71 Shepherd, Chas. H., Philadelphia,
Pa.—Refuse of cork prepared for kindling
fires. 222
- 72 Belson, R. W., Philadelphia, Pa.—
Warm-air furnace. 222
- 73 Williams & Co., Nashua, N. H.—
Stoves, washtrays, sinks, griddles, etc.,
of Francetown soapstone. 222
- 76 Ferris, Geo. H., New York, N. Y.—
Domestic boiler, coffee still. 222
- 77 Gardner, M. W., Green Island, N. Y.—
Combination knobs for stoves, ranges,
etc. 222
- 78 Birkey, John Q., & Co., Philadel-
phia, Pa.—Gas heaters. 222
- 80 Masser, H. B., Sunbury, Pa.—Coffee
roaster. 222
- 81 Garrison, W. S., Volga City, Iowa.—
Tubular heating stove. This stove will
warm from five to twenty rooms without
extra fuel. Send for engraving and circular
to Tubular Stove Co., Clear Lake,
Iowa. 222
- 82 Magee Furnace Co., Boston, Mass.—
Furnace, ranges, parlor stoves. Ma-
gee's Standard Hot-air furnace, cased with
a patent non-conducting material. Same
furnace for sheet iron casing. Same fur-
nace for setting in masonry. The radi-
ators of these furnaces are manufactured
of heavy plate iron, and all warranted gas-
and dust-tight. Their durability, economy,
and successful operation have been fully
demonstrated, and are guaranteed. Three
samples of Magee's Standard Portable
Ranges. Magee's Standard Brick Range
(also exhibited in operation at the New
England log cabin). Two samples of Ma-
gee's Standard Parlor Stove. Two sam-
ples of Magee's Standard Base Burner.
Two samples of Standard Portable Low
Down Grate. Magee's Standard Hall
Stove. Magee's Standard Dining-Room
Heater. Magee's Standard Cook Stove.
Magee's Advance Cook Stoves. Magee's
goods are eminently popular wherever
used, and are warranted in every particu-
lar by the manufacturers. 222
- 83 Read, Josiah M., Boston, Mass.—
Cooking range, stove dampers, lifters,
and broilers. 222
- 83a Croll, Benj. P., 639 Arch street,
Philadelphia, Pa.—Rhind's Patent Safety
Lamp. Rhind's Patent Kerosene Safety
Lamp has been placed upon the market,
and the public is invited to test it. Its
qualities are: First, it extinguishes itself
when overturned; second, it extinguishes
itself when dropped from the hand; it
cannot be filled when lighted, and can be
carried about at pleasure. It is so con-
structed that blowing down the chimney
or turning down the wick to extinguish
the light is unnecessary. The New
York board of underwriters have en-
dorsed and recommended its use. Sam-
ple price, \$1.25, sent free upon receipt of
P. O. order. Merchants supplied at
reasonable prices. 222
- 83b Beam, A. F., Philadelphia, Pa.—
Oil tanks and cans. 224
- 84 Barrows, Savery & Co., Philadel-
phia, Pa.—Hollow ware, irons, porcelain
refrigerator, etc. 224
- 84a Dunglison, Richard J., Philadel-
phia, Pa.—Corn grater. 224
- 85 Farson, E. S., & Co., Philadel-
phia, Pa.—Refrigerators and coolers. 224
- 85a Reidle, E. G., & Co., Philadelphia,
Pa.—Seamless tin boxes. 224
- 86 Gravenstine, John, Philadelphia,
Pa.—Sideboard, refrigerator, and water-
cooler combined. 224
- 86a Perkins, Eliab, Sterling, Ill.
a Refrigerator. 224
b Shutter. 227
- 87 Soggs, C. W., Carbondale, Pa.
a Fruit and vegetable parer and slicer. 224
b Folding adjustable ironing table and skirt-
board. 225
- 88 Lacy, Walter, Milwaukee, Wis.—
Steamless cooking shell. 224
- 90 Kimball, Wm. S., Philadelphia,
Pa.—Refrigerator, filter, and cooler. 224
- 91 Parker, Chas., Meriden, Conn.—
Coffee mills. 224
- 92 Berney, Alfred, Boston, Mass.—
Teakettle, boiler, and steamer; dry, wet,
and weighing measure combined; coffee
cone. 224
- 93 Patent Keg Co., Philadelphia, Pa.—
Paint and other cans. 224
- 94 Keller Manufacturing Co., Har-
risburg, Pa.—Graduated quart measure. 224
- 95 Hess, Abram, Philadelphia, Pa.—
Cooking apparatus. 224
- 97 Shepard, Sidney & Co., Buffalo,
N. Y.—Japanned and stamped tinware,
coal vases, stove boards, ice cream free-
zers, spice caddies. 224
- 98 Stites & Co., Cincinnati, O.—Iron
measures, buckets, and paint pails. 224
- 99 Broch, Isidor, Philadelphia, Pa.—
Water filter. 224
- 100 Acquackanonk Manufactur-
ing Co., Passaic, N. J.—House furnish-
ing woodenware; stepladders, hat racks,
knifeboards, etc. 224
- 101 Rohrer, Jeremiah, Lancaster, Pa.—
Refrigerator and water cooler com-
bined. 224
- 101a Beach, E. R., New York, N. Y.—
Match safe base for lamps. 224
- 103 Ford, F. G., Philadelphia, Pa.—
Flour and ash pails and sieves combined;
toys. 224
- 106 Polhemus, J. H., New York, N.
Y.—Refrigerating cupboard, upright and
chest refrigerator. 224
- 106 Newark Tea Tray Co., Newark,
N. J.—Tea trays, children's trays, stove
platforms, dustpans, and brushes. 224
- 107 Dowst, Frank, Manchester, N. H.—
Refrigerator. 224

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

Household Utensils.

- 108 Allegretti Refrigerator Co., New York, N. Y.**—Refrigerators, railroad refrigerator car, undertakers' preserving casket. 224
- 110 Olmsted, S., jr., Galesburg, Ill.**—Sifter, cullender, and strainer combined. 224
- 111 Silver, W. H., New York, N. Y.**—Egg beater, tin churns, and ice cream freezers. 224
- 112 Consolidated Fruit Jar Co., New Brunswick, N. J.**—Fruit in Mason's glass jars. Manufacturers of Mason's fruit jars, oilers, can screws, and sheet metal wares. 224
- 112a Ketcham, E., & Co., New York, N. Y.**—Tin ware, kitchen goods. 224
- 113 Scheider, J., & Co., Portland, Conn.**—Stamped and japanned ware; house furnishing goods. 224
- 114 Cull, Henry, Philadelphia, Pa.**—Combination sink and dish cupboard and toilet stand; kitchen and dining room furniture. 224
- 115 Missouri Valley Novelty Works, St. Joseph, Mo.**—Combination kitchen safe. A money saving, labor saving, household convenience. With this safe a person need not move one step in making bread, cakes, or pastry, for all the necessary machinery and ingredients are centered within reach. 224
- 116 Simes & Tate, Philadelphia, Pa.**—Water filter. 224
- 117 Randle, Wm. H., Baltimore, Md.**—Water coolers and refrigerators. 224
- 120 Shaw, Charles A., 110 Tremont street, Boston, Mass.**—Spice box. 224
- 121 Wilson Manufacturing Co., Philadelphia, Pa.**—Clothes dryer, rack, nursery cup. 224
- 122 Rasin, William J., Philadelphia, Pa.**—Water coolers, restaurant coolers. 224
- 124 Union Manufacturing Co., Toledo, O.**—Washboards, churns, lawn hose carts, kitchen woodenware. 224
- 125 Vignal, Carl, New York, N. Y.**—Ice cream refrigerator. 224
- 127 Schaum, John P., Lancaster, Pa.**—Copper kettles and copper ware. 224
- 128 St. Louis Stamping Co., St. Louis, Mo.**—Granite iron cooking and household utensils. 224
- 130 Bollenbacher, Geo. W., Bloomington, Ind.**—Kneading table, with flour and meal chest combined. 224
- 132 Gem Soldering Iron Co., Philadelphia, Pa.**
 a Soldering casket. 224
 b Portable shower bath. 226
- 133 McDonald, T. E., New Brunswick, N. J.**—Washing machine and wringer. 225
- 134 Moore, Henry, & Son, Philadelphia, Pa.**—Washing machine. 225
- 134a Caldwell, M. A., North East, Pa.**—Combination brush and rollers for washboard. 225
- 135 Dugdale, Jas. K., White Waters, Ind.**—Clothes wringers and washers, garden cultivators. 225
- 135a Gilbert, A. C., Philadelphia, Pa.**—Ironing board. 225
- 136 American Machine Co., 430 Walnut street, Philadelphia, Pa.**—Crown clothes wringers, frames of galvanized malleable iron, self-adjusting, pressure released from rolls, automatically, when out of use; efficient, practical, and durable. "Crown Fluters and Star Fluters," latest improved construction, celebrated for variety and perfection of work and ease of operation. 225
- 137 Chalfant Manufacturing Co., 507 North street, Philadelphia, Pa.**—Proprietor and manufacturers of Mrs. Potts' patent cold-handle sad irons, polishing, laundry, and tailors' irons. 225
- 138 Vant, Aremas B., & Cheney, Henry O., Hopkinton, Mass.**—Washer and wringer combined. 225
- 139 American Lever Wringer Co., Springfield, O.**—Clothes wringer. 225
- 140 Applegate, Robert O., Philadelphia, Pa.**—Ironing table. 225
- 141 Duncan, W. A., Syracuse, N. Y.**—Washing machine. 225
- 142 Worden, A. E., Smyrna, Del.**—Washing machine. 225
- 143 Colby Wringer Co., Waterbury, Vt.**—Clothes wringer, little washer. 225
- 144 Bless & Drake, Newark, N. J.**—Self-heating smoothing irons, tailors' geese, sad, laundry, and polishing irons. 225
- 146 Calver, Dr. G. W. H., Columbus, N. J.**—Household ironing machine, heated by gas or cook stoves. Patent for sale. 225
- 147 Bailey Wringing Machine Co., New York, N. Y.**—Clothes wringers. 225
- 149 Jennings, A. W., Bedford, O.**—Clothes washers. 225
- 150 Gove, John C., Cleveland, O.**—Fruit and provision preserving house, washing machine, adjustable index writer. 225
- 151 Lash, J. S., & Co., Philadelphia, Pa.**—Washing machine, bench wringers. 225
- 154 Lamb, Geo. D., New Haven, Conn.**—Little washer, iron holder. 225
- 155 Metropolitan Washing Machine Co., New York, N. Y.**—Clothes wringers, washing machine, mangle. 225
- 157 Myers, A. G., New York, N. Y.**—Water closets and plumbers' material. 226
- 157a Eisenmann, E., New York, N. Y.**—Back and head support for the bathtub. 226
- 158 Blessing, C. A., 44 North Fifth street, Philadelphia, Pa.**, dealer in bath tubs, copper boilers, and plumbers' copper and cabinet ware in general.—Bath tubs, washstand, bidet. 226
- 158a Blakemore & Sherman, Philadelphia, Pa.**—Washstand. 226
- 159 Carr, Wm. S., & Co., New York, N. Y.**—Water closets, brass pumps, cabinet woodwork, and bathroom. 226
- 159a Pease, Charles A., Boston, Mass.**—Washstand. 226
- 160 Wakefield Earth Closet Co., New York, N. Y.**—Earth closets, combined commode and sloop pail. 226
- 161 Carrigan, Peter, Philadelphia, Pa.**—Tinned and nickel-plated copper bath-tubs, bidet, footbath, pantry and b.s. sinks, drainer, and liquor cooler. 226

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-1

Parts of Buildings, Hardware, etc.

- 162 Weaver & Pennock, Philadelphia, Pa.—Marble lavatory. 226
- 162a Landis, S. M., Philadelphia, Pa.—Turkish bath. 226
- 163 Vinton, C., Hartford, Conn.—Babies' bathtub, sitz bath. 226
- 164 Bacharach, M., New York, N. Y.—Street urinal. 226
- 165 Travis, Jos. L., Philadelphia, Pa.—Water closets, brass and plated work for plumbers and steam fitters. 226
- 166 Steeger, Henry, New York, N. Y.—Copper boilers, bathtubs, etc. 226
- 166a Barth, Gottlieb M., Philadelphia, Pa.—Improvement in window frames. 227
- 166b Ballentine, G. H., Philadelphia, Pa.—Cottage. 227
- 166c Ross, William J., West Boylston, Mass.—House building improvements, etc. 227
- 166d Perry, Jos. R., Wilkesbarre, Pa.—Wooden house. 227
- 166e Patterson, J. E., & Co., Pittston, Pa.—Doors, shutters, newel posts, etc. 227
- 166f Winans, Geo. G., Scranton, Pa.—Wainscoting. 227
- 166g Wilson, Jas. G., New York, N. Y.—Rolling wood shutters and venetian blinds. 227
- 166h Wight, Spencer A., Philadelphia, Pa.—Dust trap for ventilating bulk windows. 227
- 166i Comstock, C. C., Grand Rapids, Mich.—Doors, blinds, mouldings, etc. 227
- 166j Wilt, A., & Son, Philadelphia, Pa.—Sash, blinds, doors, mouldings, etc. 227
- 166k Huginin Manufacturing Co., New York, N. Y.—Automatic window supports. 227
- 166l Bradford, H., Philadelphia, Pa.—Window fastener. This is the only window fastener that locks automatically at any point, by side pressure, without defacing the frame. For sale by H. Bradford, room 26, Merchants' Exchange, corner Third and Walnut streets, Philadelphia. 227
- 166m Champion Fence Co., Kenton, O.—Iron fencing. 227
- 166n Manly, M. M., & Son, Philadelphia, Pa.—Iron railing, wirework, etc. 227
- 166o Clark & Co., New York, N. Y.—Brass and iron store fronts and self-coiling shutters. 227
- 166p Lake Champlain Manufacturing Co., Ticonderoga, N. Y.—Doors, etc. 227
- 166q Ford, W. A., Greensburg, Ill.—Window fastener. 227
- 166r Hayes, Geo. S., New York, N. Y.—Roofing. 227
- 167 Dayton, G. E., New York, N. Y.—Iron gutters, sashes, etc. 227
- 167a Crowell, S., Philadelphia, Pa.—Iron fence. 227
- 167b Hough & Co., Indianapolis, Ind.—Cast iron griffins. 227
- 167c Darby, E., & Son, Philadelphia, Pa.—Wire work. 227
- 167d Lynex, Richard, Philadelphia, Pa.—Wire work. 227
- 167e New York Slate Roofing Co. (limited), New York, N. Y.—Paints and roofing materials. 227
- 167f Garry Iron Roofing Co., Cleveland, O.—Roofing, window shutters, etc. 227
- 167g Augustine & Stuart, Philadelphia, Pa.—Metallic roofing and spouting. 227
- 167h Belts' Roofing Co., Cincinnati, O.—Roofing. 227
- 167i Martin, W. H., & Co., Philadelphia, Pa.—Roofing. 227
- 167j Fairbanks, A. G., Manchester, N. H.—Soapstone roofing. 227
- 167k Kensett, Jas. W., New York, N. Y.—Fireproof appliance for the security of buildings. 227
- 167l Swift, Charles N., New York, N. Y.—Adjustable ventilators. 227
- 167m Bates, J. C., Philadelphia, Pa.—Ventilating apparatus. 227
- 167n Bracher, T. W., New York, N. Y.—Ventilators. 227
- 167o Wallace, S. J., Keokuk, Ia.—Fire-proof floors and roofs. 227
- 167p Penn Roofing Co., Philadelphia, Pa.—Roofing felt, etc. 227
- 167q Humboldt Iron Works, New York, N. Y.—Illuminating tiles. 227
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 167r Watts, Ethelber, Philadelphia, Pa.—Portable bath trunk. 255
- Medicine, Surgery, Prothesis.**
- 167s Crandall, Chas. J., New York, N. Y.—Crutches. 276
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 167t Wickersham & Bro., Philadelphia, Pa.—Brass and gold pipe, etc. 283
- 167u Eckel, Herman, Cincinnati, O.—Enameled iron hollow ware. 283
- 167v Musgrove & Son, New York, N. Y.—Fancy articles for tin wedding presents, tin, japanned and copper ware. 283
- 167w Lalance & Grosjean Manufacturing Co., New York, N. Y.—Granite ware, etc. 283
- 168 Rowland, William, & Harvey, Philadelphia, Pa.—Carriage, locomotive, and car springs; tire, sheet, cast, machinery, and blister steel. Re-rolled Norway iron, rolled and slit Norway nail rods. 284
- 168a Mott, J. L., Iron Works, New York, N. Y.—Plumbers' cast iron ware, plain, galvanized, and enameled. 284
- 169 Burwell, William, & Bro., Philadelphia, Pa.—Carriage mountings in silver, oreide, and gold plated. 284
- 169a Anderson, W. W., Philadelphia, Pa.—Models for carriage shackle. 284
- 170 The Philadelphia Axle Co., Philadelphia, Pa.—Iron and steel axles, improved wheels. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 57-68

Hardware, Parts of Carriages.

- 171 Hoopes, Bro., & Darlington, West Chester, Pa., & at 27 James street, Long-Acre, London, England.—Vehicle wheels of hickory and oak, fine quality and workmanship, thoroughly seasoned. Particular attention given to special styles for builders of private coaches; also Dorman patent wheels with wood hub and iron flanges, spokes secured in hub by wedges, and warranted not to become loose in service. Wheel material and shafts of all kinds to order. 284
- 172 Topliff & Ely, Elyria, O.—Tubular bow, shaft, and pole sockets for carriages; side-spring equalizers. 284
- 173 Kent, D. H., & Co., Wilmington, Del.—Iron hardware and coach material. 284
- 174 Benezet & Co., Philadelphia, Pa.—Carriage and wagon springs. 284
- 175 Dann, Bros., & Co., New Haven, Conn.—Carriage woodwork. 284
- 176 Shields, Thomas, Philadelphia, Pa.—Carriage bolts and clips, nuts, washers, etc. 284
- 177 Kunzig, Christian, Philadelphia, Pa.—Gold and silver carriage mountings. 284
- 178 Metal Stamping Co., New York, N. Y.—Carriage curtain loops and buckles, knob fasteners, etc. 284
- 179 Brown, S. N., & Co., Dayton, O.—Sulky, buggy, and coach wheels, hubs, spokes, bows, shafts, poles, and yokes. 284
- 180 Dexter Spring Co., Hulton, Pa.—Vehicle springs. 284
- 181 Seidler, Fred., Mechanicsburg, Pa.—Spokes, felloes, hubs, shafts, poles, bows, wheels. 284
- 182 Sheldon & Co., Auburn, N. Y.—Carriage and wagon axles. 284
- 183 McKnight & Rohrer, Charlestown, W. Va.—Carriage rims; axe, pick, sledge, hammer, and hatchet handles. 284
- 184 Advena & Heald, Philadelphia, Pa.—Carriage and wagon axles; steel boxes. 284
- 185 Shields, Wm., Philadelphia, Pa.—Carriage bolts. 284
- 186 Cowles, C., & Co., New Haven, Conn.—Carriage trimmings and hardware. 284
- 187 New Haven Wheel Co., New Haven, Conn.—Wheels for vehicles. All the usual styles and qualities of unpatented wheels. Original manufacturers of the celebrated "Sarven" patent wheel. 284
- 188 Davis, John G., & Son, Philadelphia, Pa.—Spokes, hubs, rims, wheels, and plow handles. 284
- 189 Sandusky Wheel Co., Sandusky, O.—Carriage woodwork. 284
- 190 Woolworth, James, Sandusky, O.—Tool handles. 284
- 191 Smith, H. D., & Co., Plantsville, Conn.—Carriage and coachmakers' forged hardware. 284
- 192 Urmoston, John, Rahway, N. J.—Hubs. 284
- 193 Crane, Samuel O., Newark, N. J.—Carriage wheels. 284
- 194 Jones, Phineas, & Co., Newark, N. J.—Coach and carriage wheels, spokes, hubs, rims, etc. 284
- 195 Kilburn, Isaac B., Newark, N. J.—Bent carriage woodwork and materials. 284
- 196 Smith, Alfred E., Brownville, N. Y.—Carriage axles. 284
- 197 Searls, Anson, Newark, N. J.—Carriage specialties. Whip sockets adapted to all kinds of carriages, with improved fasteners; style, finish, and durability. The "Centennial" top props for carriages, perfected; any joint will fit; no rattle, and no nuts lost. 284
- 198 Union County Manufacturing Co., Elizabeth, N. J.—Wheels and wheel stock. 284
- 199 Skelly, Thomas, Philadelphia, Pa.—Carriage bolts, axle clips, nuts, etc. 284
- 200 Lockwood, C. N., & Co., Newark, N. J.—Carriage lamps and plated carriage ware. 284
- 201 Silas, Rogers, & Co., Stanfordville, N. Y.—Carriage and truck axles. 284
- 202 Springer, Morley, & Gause, Wilmington, Del.—Coach and carriage wheels, hubs, spokes, and felloes. 284
- 203 Baker & Co., Waller, O.—Wheels, hubs, spokes, felloes, gearing, wood in rough, etc. 284
- 204 Sippel, Chr., Newark, N. J.—Fancy turning for carriage trimmings. 284
- 204a Rubber Step Manufacturing Co., Boston, Mass.—Carriage steps, etc. 284
- 205 Dalzell, D., & Sons, South Egremont, Mass.—Carriage axles, axle boxes. 284
- 205a Seward, M., & Son, New Haven, Conn.—Carriage hardware. 284
- 206 Sammes, J. B., & Co., New York, N. Y.—Hubs. 284
- 207 Olds, N. G., & Sons, Fort Wayne, Ind.—Wheels, hubs, buggy seats, and plow handles. 284
- 208 Leippe, Jacob A., Anchor Bending Works, Lancaster, Pa.—Shafts and rims. 284
- 209 Wrigglesworth, W. J., Darlington, Wis.—Wheels for carriages, buggies, wagons, etc. 284
- 210 Logansport Manufacturing Co., Logansport, Ind.—Wagon and carriage spokes, bent felloes, shafts, and soles. 284
- 211 Cunningham, Portz, & Co., Fostoria, O.—Spokes, felloes, neck yokes, whiffletrees, pick and hammer handles, etc. 284
- 212 Strahorn, Pierson, & Co., Toughtenamon, Pa.—Carriage wheels. 284
- 213 Lebzelter, Philip, Lancaster, Pa.—Spokes, felloes, shafts. 284
- 214 Paine Bros., New York, N. Y.—Hickory and ash handles, carriage and wagon woodwork, hardwood lumber. 284
- 215 Stockton Spoke Works (W. V. Case, Bro., & Co.), Stockton, N. Y.—Spokes, whiffletrees, neck yokes, handles and carriage woodwork. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-

Wooden and Basket Ware, Carriages.

- 216** Woodburn Sarven Wheel Co., Indianapolis, Ind.—Sarven and common wood hub wheels. Manufacturers of the celebrated "Sarven Patent Wheel," used for all kinds of vehicles; also, common wood hub wheels. Send for our Price List. 284
- 217** Frohock, Wm. Thompson, Philadelphia, Pa.—Suspension steel buggy wheels, nickel-plated spokes, etc. 284
- 218** Hayden & Smith, Auburn, N. Y.—Saddlery, and carriage hardware; finished forgings for carriages; slot fifth wheels, Saunders' patent shaft shackles, Concord hames, Kinne's patent trace buckles; all wrought, guaranteed, Bra-doon bits. 284
- 219** Mosier, John L. H., New York, N. Y.—Ironwork for pleasure carriages and tools for carriage smiths. 284
- 219a** Welsh & Lea, Philadelphia, Pa.—Carriage and tire bolts, nuts, axle clips, etc. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 220** Gould, C. H., Philadelphia, Pa.—Rubber steps, etc. 285
- 220a** Jones, H. C., & Co., Philadelphia, Pa.—Brush stocks and handles. 286
- 220b** Robinson, Fowler, & Co., San Francisco, Cal.—Brooms with metallic socket. 286
- 220c** Merick, E. J., Rochester, N. Y.—Brooms. 286
- 220d** Meinecke, Adolph, Milwaukee, Wis.—Ladies' baskets and willow ware. 289
- 220e** French Paper Ware Co., Springfield, N. J.—Pails, tubs, etc. 289
- 220f** Tower, Wm. F., & Bro., Hinsdale, Mass.—Ash baskets, for use in mills. 289
- 220g** Dempsey Wicker-covered Glass-ware Co., Philadelphia, Pa.—Wicker-covered bottles. 289
- 220h** Dodson & Roberts' Manufacturing Co., Philadelphia, Pa.—Rattan and wire goods. 289
- 220i** Eberhardt, F., Philadelphia, Pa.—Baskets, cradles, workstands, etc. 289
- 220j** Zinn, Chas., & Co., New York, N. Y.—Baskets, willow ware, etc. 289
- 220k** Crane Bros., Westfield, Mass.—Paper baskets, buckets, cans, etc. 289
- 220l** Hapgood & Smith, Athol, Mass.—Match sticks. 289
- Carriages, Vehicles, and Accessories.**
- 221** Rogers, Wm. D., & Co., Philadelphia, Pa.—Pleasure carriages. 292
- 222** Beckhaus, Jos., Philadelphia, Pa.—Coach, landaulet, phaeton, coupé. 292
- 223** McLear & Kendall, Wilmington, Del.—Phaetons, rockaway, family, park, and seaside carriages. 292
- 224** Petry, Geissel, Bayha, & Co., Philadelphia, Pa.—Finished and unfinished landaus. 292
- 225** Jacobs, S. W., & Son, Philadelphia, Pa.—Pleasure carriages. 292
- 226** Childs, Geo. K., Philadelphia, Pa.—Shifting top buggy, track sulky. 292
- 227** Lane, D. M., & Son, Philadelphia, Pa.—Extension top brett, phaeton, falling top buggy. 292
- 228** Haskell Bros., Philadelphia, Pa.—Road top wagon. 292
- 229** Brewster & Co., of Broome street, New York, N. Y.—Town and park carriages, road wagons, and sleighs. 292
- 230** Wood Bros., New York, N. Y.—Brougham, vis-a-vis, top wagon, landau, T and dog cart. 292
- 230a** Hill, J. W. R., Brentwood, N. Y.—Carriage, with pedal driving attachment. 292
- 231** Stone & Kaighn, Philadelphia, Pa.—Doll carriage, boys' wagon, and wheelbarrow. 292
- 232** Caffrey, Chas. S., Camden, N. J.—Skeleton sulky, shifting top buggy, phaetons. 292
- 232a** Oppenheim, Fred., San Francisco, Cal.—Buggies. 292
- 233** Townsend, Chas. T., New Haven, Conn.—Phaeton and wagon bodies. 292
- 234** Brewster, J. B., & Co., 25th street, New York, N. Y.—Landau town coach, demi-landau, coupé, victoria, windsor wagons. Established by our Mr. J. B. Brewster, in 1838. Sole makers of "The Windsor Wagon," with vertical steel plates in axle beds. A visit to the factory at Twenty-fifth street, New York, will repay any one. Warerooms, Fifth Avenue and Twenty-first street, N. Y. 292
- 235** Doland & Scherb, San Francisco, Cal.—Light carriages. 292
- 236** Stivers, Rufus M., New York, N. Y.—Pleasure carriages or buggies. 292
- 237** Bailey & Wilson, Oxford, Pa.—Trotting wagon. 292
- 238** Studebaker Bros. Manufacturing Co., South Bend, Ind.—Top buggy. 292
- 240** Hetfield & Jackson, Rahway, N. J.—Light pleasure carriages. 292
- 241** Cadwallader, Fitz Gibbon, & Co., Trenton, N. J.—Road wagon, top buggy. 292
- 242** Rech, Jacob, Philadelphia, Pa.—Phaetons, top buggy, Jenny Lind. 292
- 243** Scranton, L. S., Grand Rapids, Mich.—Track sulky, buggy. 292
- 244** Clymer, F. T., Wilmington, Del.—Hearse, phaeton, and buggy body. 292
- 245** Colyer, J., & Co., Newark, N. J.—Westchester, rockaway, top buggy, road wagon. 292
- 245a** Crosby, Gilsinger, & Co., Rondout, N. Y.
a Light carriages. 292
b Velocipede. 293
- 246** Randall, Jas. V., Newtown, Pa.—Extension phaetons. 292
- 247** Guthrie, Jones, & Co., Wilmington, Del.—Buggies. 292
- 248** Cunningham, James, & Son, Rochester, N. Y.
a Landaus, landaulet, top buggy. 292
b Hearse. 293
- 249** Gosling, J. W., Cincinnati, O.—Brett carriage, top buggies, side bar wagon. 292

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

Carriages, Cars.

- 250 Renick, Curtis, & Co., Greencastle, Ind.—Combined carriage and buggy; combined carriage and buggy bodies. 292
- 251 Wright, W. H., & Co., Wilmington, Del.—Double jump seat carriage. 292
- 252 Mellinger Jump Seat Co., Harrisburg, Pa.—Jump-seat bodies. 292
- 253 Hall, James, & Son, Boston, Mass.—Berlin coach; top and shifting top buggies. 292
- 254 Enders, J., & Co., Louisville, Ky.—Top buggy with side bar attachment. 292
- 255 Sargent & Ham, Boston, Mass.—Extension top park phaeton. 292
- 256 Scovill, S. S., & Co., Coldwater, Mich.—Box buggy and track sulkeys. 292
- 257 McDermott, John, & Bros., Washington, D. C.—Shifting top buggy. 292
- 258 Green, John, Wilmington, Del.—Jump seat and doctors' rockaways. 292
- 259 McLear, Alfred, West Chester, Pa.—Shifting seat carriage and shifting top buggy. 292
- 260 Gilman, F. C., Montpelier, Vt.—Track sulky, open buggy. 292
- 261 Rodgers, S. C., Philadelphia, Pa.—Shifting top, side bar wagon; one-man wagon. 292
- 263 Behlen, Charles, Cincinnati, O.
a Barouche, physician's phaeton. 292
b Hearse. 293
- 264 Tonsend, Chas. T., New Haven, Conn.—Phaeton, road wagon, and willow shell bodies. 292
- 265 Killam, H., & Co., New Haven, Conn.—Pleasure carriages. 292
- 266 Manville, B., & Co., New Haven, Conn.—Rockaways, cabriolet, T cart. 292
- 267 Hub Publishing Co., New York, N. Y.—Hand drawings of carriages. 292
- 268 Grube, Chas., New York, N. Y.—Park phaeton, top buggy. 292
- 269 Goold, James, & Co., Albany, N. Y.
a Drawing-room coach, buggy. 292
b Sleighs, cutter. 295
- 270 Stone, Frank P., Chicago, Ill.—Porter buggy. 292
- 271 Pray Bros., Boston, Mass.—Goddard buggy, track sulky. 292
- 272 Packard, C. F., & Co., West Farmington, Me.—Side spring platform wagon, and track wagon. Given first mention and silver medal at the Maine State Fair, 1874. 292
- 273 Sargent, William P., & Co., Boston, Mass.
a Buggies, carriages. 292
b Sleighs. 295
- 274 Smith, J. T., & Co., Boston, Mass.
a Top buggies. 292
b Sleighs. 295
- 275 Durham & Wooster, New Haven, Conn.—Landaulet couplet, London phaeton. 292
- 276 Dibble, C. F., & Co., Philadelphia, Pa.—Doctors' gig, pony phaeton. 292
- 277 St. James, C., Pittsfield, Mass.—Single carriage, thill and pole. 292
- 279 Jones, Phineas, & Co., Newark, N. J.—Track sulky. 292
- 280 Tibbals, Lewis P., New York, N. Y.—Baby carriage. 293
- 280a New Haven Folding Chair Co., New Haven, Conn.—Child's carriage. 293
- 281 Abbott, Downing & Co., Concord, N. H.—Concord coaches. 293
- 281a Dare, C. W. F., New York, N. Y.—Child's carriage. 293
- 282 Conover, J. A., & Son, New York, N. Y.—Spring leaping-horses, baby carriages. 293
- 282a Oppenheimer, Solomon, Newark, N. Y.—Improvement in children's carriages. 293
- 283 Yost, T. A., Philadelphia, Pa.—Children's carriages and velocipedes. 293
- 283a Wentworth, Chas. H., Eddystone, Pa.—Child's folding carriage. 293
- 284 Richardson, McKee & Co., Boston, Mass.—Child's carriage. 293
- 285 Montpelier Manufacturing Co., Montpelier, Vt.—Children's carriages. 293
- 285a Jury, F. Hermann, New York, N. Y.—Child's folding carriage. 293
- 286 McIntire, J. Frank, Boston, Mass.—Children's carriages. 293
- 287 Cole & Ballard, Newark, N. J.—Baby carriages, velocipede, sled, and wagon. 293
- 288 Newgeon & Shelton Carriage Co., Birmingham, Conn.—Children's carriages. 293
- 289 Steinbach, Geo. P., Baltimore, Md.—Children's convertible sleeping coaches and walking and nursery chair and vehicle. 293
- 290 Fraley, G. W., & Co., Philadelphia, Pa.—Baby's canopy-top coach, velocipede. 293
- 291 Crandall & Co., New York, N. Y.—Children's carriage. 293
- 292 McIntire, Samuel, New York, N. Y.—Baby carriages. 293
- 293 Crandall, J. A., Brooklyn, N. Y.—Child's carriage and cradle combined, play goods, etc. 293
- 294 Youle, William, Norwalk, Conn.—Hearse. 293
- 295 Paris Hill Manufacturing Co., Paris Hill, Me.—Children's carriages and sleds. 293
- 296 Hunt, Wm., Camden, N. J.—Passenger vehicles. 293
- 297 Pickering, Thos. R., Portland, Conn.—Velocipede. 293
- 298 Smith, John, & Son, South Gray, Me.—Sleigh. 295
- 298a Mayer, John W., Rondout, N. Y.—Albany cutter. 295
- 299 Smith, Hugh, Gray, Me.—Double and single sleighs. 295
- 299a Wagner, Geo. W., Roxborough, Pa.—Sleigh. 295
- 300 Russell, Joseph, cor. Congress & Oak streets, Portland, Me.—Fine carriages and sleighs. 295
- 300a Dann Bros. & Co., New Haven, Conn.—Carriage wood work, bodies, seats, backs, gearings, bows, shafts, etc. 295
- 300b Hill, J. R., & Co., Concord, N. H.—Harness. 295

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific Instruments, Railway Cars and Appliances.

301 Pennsylvania Working Home for Blind Men, Philadelphia, Pa.—Harness. 296

301^a Phillips, Samuel R., Philadelphia, Pa.—Four-in-hand harness on wooden horses. 296

301^b White Manufacturing Co., Bridgeport, Conn.—Carriage trimmings and lamps. 296

302 Dohan, J. F., & Co., Binghamton, N. Y.—Carriage curtain-lights and other stamped carriage goods. 296

303 Baldwin, Jos., & Co., Newark, N. J.—Saddlery hardware, hand forged and malleable; bits. 296

304 Hayden & Smith, Auburn, N. Y.—Hames and trimmings for harness. 296

Institutions and Organizations.

304^a Barry, Peter, New York, N. Y.—The arms of the Revolutionary patriots. 312

Scientific and Philosophical Instruments and Methods.

304^b Keller Manufacturing Co., Harrisburg, Pa.—Graduated measure. 322

304^c Fournier, Stanislas, New Orleans, La.—Tell-tale clock and starter. 323

Physical, Social, and Moral Condition of Man.

304^d Curtis, Albert W., Williamsport, Pa.—Centennial swing. 340

Motors and Apparatus for the Generation and Transmission of Power.

304^e Miller, Joseph A., Providence, R. I.—Models for locomotive boilers. 550

Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.

304^f Miller, A. R., & Son, Attica, N. Y.—Automatic carriage jack. 563

304^g Miller, Joseph A., Providence, R. I.—Hose carriage. 564

Railway Plant, Rolling Stock, and Apparatus.

305 Jackson & Sharp Co., Wilmington, Del.—Ordinary and narrow gauge passenger cars. 571

306 Harlan & Hollingsworth Co., Wilmington, Del.—Parlor car, narrow gauge passenger car. 571

306^a Clark, Geo. P., Boston, Mass.—Combined locomotive, baggage, and passenger car. 571

307 Haase, John A., Philadelphia, Pa.—Model freight car, hose shield, floor and door clamps, ratchet drills. 571

308 Pullman's Palace Car Co., Chicago, Ill.—Drawing-room car, hotel car. 571

309 Wason Manufacturing Co., Springfield, Mass.—Railway passenger car. Established 1845. Railway car builders. Particular facilities for doing foreign work. 571

311 Hayden, James, Philadelphia, Pa.—Car model, showing improvement in bumper springs, platform and draw heads. 571

312 Ustick, Stephen, Philadelphia, Pa.—Car model, showing improved coupling and journal lubricators. 571

313 Stephenson, John, & Co., New York, N. Y.—One and two horse street cars. 571

314 Towle Manufacturing Co., New York, N. Y.—Bell punches and fare registers. 571

314^a Crosby & Hecker, Rondout, N. Y.—Car coupler. 572

314^b Russell, H. G., Lincoln, Ill.—Car coupler. 571

314^c World's Champion Car Coupler Co., Tiffin, O.—Car coupler. 572

315 Darling, Samuel, Providence, R. I.—Improved ventilating car window. Manufacturer of a great variety of new patent inkstands, on new principles, being so arranged that the writer can regulate, with great accuracy, the quantity of ink to be taken upon the pen. They are made in styles and at prices to suit all classes of writers. One (non-spilling) is especially adapted for home use. Pen-cleaners, on a new principle, an indispensable article. A new glass for church windows, which will keep out the sun, and let in more light than any before produced. A standard medicine-dropper, by which medicine can be dropped with facility in drops of the exact standard size. 573

315^a Hindman, Thos., Pittsburg, Pa.—Whiffletree and shaft-coupling. 573

315^b Blaisdell, Geo. P., North Easton, Mass.—Self-lubricating carriage axles. 573

315^c Locke, John, Philadelphia, Pa.—Hubs for wheels. 573

315^d Hunter, G. W., Philadelphia, Pa.—Railroad tie lifter. 573

316 Brill, J. G., & Co., Philadelphia, Pa.—Street railway car. 577

317 Morgan, Richard Price, jr., Bloomington, Ill.—Elevated railway for cities, adopted by the Rapid Transit Commission of New York, Oct. 4, 1875. This structure is designed to sustain a double track steam railway, over the centre of streets, at such height as not to interfere with their ordinary traffic. The transverse supports that carry the longitudinal trusses, which directly uphold the tracks, spring from the sidewalks, opposite each other, near the curb, meeting over the centre of the street, forming an effective pointed gothic arch. 577

317^a Crozier, H. P., Brooklyn, N. Y.—Horse car starter. (Outside.) 577

318 Jones, J. M., & Co., West Troy, N. Y.—Street and excursion street cars. 577

319 Williams, R. L., Middle Granville, N. Y.—Self-coupler for cars. 577

320 Schopp, Phil. J., Louisville, Ky.—Pneumatic screw ventilator. 577

321 Crocker, L. O., East Braintree, Mass.—Conductors' railway ticket punches. 577

322 Stewart, S. N., Philadelphia, Pa.—Model of an ice boat. 581

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-28.

Vehicles, Harness.

GREAT BRITAIN.

- 323 McNaught & Smith, London.—
Landau, barouche, coupé, and brougham. 292
- 324 Peters & Sons, London.—Park and
road drags, landau, broughams, phaetons,
and Whitechapel cart. 292
- 325 Hooper & Co., London.—Four-in-
hand drag, phaetons, barouche, brougham,
and landau. 292
- 326 Thorn, C., Norwich.—Phaetons,
brougham, gig, charabanc, shooting cart,
landau, and wagonette. 292
- 327 Roberts, John, Manchester.—Pony
phaeton. 292
- 328 Mulliner, Henry, Leamington.—
Brougham, Whitechapel cart, landau, and
dog-cart phaeton. 292
- 329 Windover, C. S., London.—
Brougham, phaetons, and landau. 292
- 330 Thompson, Chas., London.—
Child's perambulator. 293
- 330a Haynes & Jeffries, Coventry.—
Bicycles. 293
- 330b Roberts, C. D., Coventry.—Bicy-
cles. 293

NEW SOUTH WALES.

- 331 Robertson, John, Sydney.—Con-
cord buggy with canoe front; wood work
and iron work entirely of New South
Wales material. 292

CANADA.

- 332 Legaie, J. B., Quebec.—Cariole. 292
- 333 Ashley, Chas., Foxboro'.—Phae-
ton. 292
- 334 Knox & Wrothwell, Goderich.—
Buggy. 292
- 335 De Wolfe, J. M., Halifax.—Phae-
tons. 292
- 336 Ledoux, B., Montreal.
a Landaulet. 292
b Double sleigh. 295

- 337 Kew, Wm., & Son, Beamsville.
a Top buggy. 292
b Sleigh. 295
- 338 Wood & Lyons, Brantford.
a Buggies. 292
b Cutter. 295
- 339 Conboy, Daniel, Uxbridge.—Ad-
justable-back sleigh. 295

GERMANY.

- 340 Dick & Kirschten, Offenbach-on-
Main.—Axles, springs, fifth wheels, etc. 284

AUSTRIA.

- 341 Armbruster, S., Vienna.
a Landau. 292
b Harnesses and saddlery. 296

ITALY.

- 342 Locati, Alessandro, Torino.—
Street cabs. 294

RUSSIA.

- 343 Schmidt, Edward, St. Petersburg.
—Spring tester. 280
- 344 Nellis, Charles, St. Petersburg.—
Victoria. 292
- 345 Wemick, Joseph, Warsaw.—
Drosky. 292
- 346 Arbatsky, Nicholas, Moscow.
a Trotting wagon. 292
b Sledge, with robe. 295
- 347 Zimmerman, Roman, Moscow.—
Saddlery and harnesses. 296
- 348 Elevin, Michael, Moscow.—Har-
nesses. 296
- 349 Brandstetler, Frederick, Warsaw.
—Harnesses. 296
- 350 Shishkin, Stephen, Moscow.—Har-
nesses. 296
- 351 Koorikoff, P., St. Petersburg.—
Harnesses. 295

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.



